5050 M

SERVICE MANUAL SD1000/MCD910

marantz®

model SD1000/MCD910

Stereo Cassette Deck

MARANTZ DESIGN AND SERVICE

Using superior design and selected high grade components, MARANTZ Company has created the ultimate in stereo sound. Only original MARANTZ parts can insure that your MARANTZ product will continue to perform to the specifications for which it is famous.

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Phone orders will eliminate mail delays, and we encourage the use of this method. If you order by mail, use MARANTZ parts order forms which are available from our National Parts Depot located at the following address:

SUPERSCOPE NATIONAL PARTS DEPARTMENT
20525 Nordhoff Street
Chatsworth, California 91311
Phone: 1-800-423-5108
1-213-998-9333

The following information must be supplied to eliminate delays in processing your order:

1. Complete address.
2. Complete part numbers.
3. Complete description of parts.
4. Model number for which part is required (indicate MARANTZ).
5. Account number (for account customers only).

Direct consumers will be provided with the current retail price quotation on available parts in order to advise them of the cost of the parts and shipping.

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CANADA

Superscope Canada, Ltd.
3710 Nashua Drive
Mississauga
Ontario, Canada L4V1M5

AUSTRALIA

Superscope (Australasia) Pty., Ltd.
32 Cross Street (P.O. Box 604)
Brookvale 2100 N.S.W.
Australia

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Marantz Japan, Inc.
3622 Kamitsuruma
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Rue Louis Armand 9
92600 Asnieres
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Marantz Audio U.K. Ltd.
London Road, 203
Staines
Middlesex
England

Superscope GmbH
Max-Planck-Strasse 22
D-6072 Dreieich 1
West Germany

All of the above locations are fully equipped to take care of your total service needs. Because various countries have differing configuration requirements, it is necessary that you contact the service facility in your particular country. In the event that there is no service location listed for your country, please contact the nearest facility for the necessary assistance.

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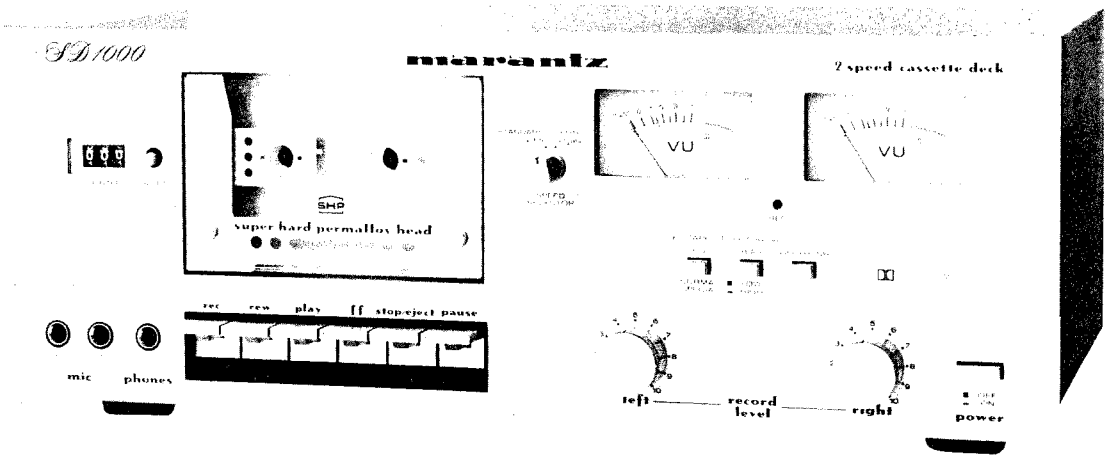
MARANTZ MODEL SD1000 CASSETTE DECK



INTRODUCTION

This service manual are prepared for use by Authorized Warranty Station and contains service information for Marantz Stereo Cassette Deck.

Servicing information and voltage data included in this manual are intended for use by the knowledgeable and experienced technician only. All instructions should be read carefully. No attempt should be made to proceed without a good understanding of the operation of the Cassette Deck.

The parts list furnishes information by which replacement parts may be ordered from the Marantz Company. A simple description is included for parts which can be usually obtained through local suppliers.

1. P.W. BOARDS

As can be seen from the circuit diagram, the chassis of your Cassette Deck consists of the following units. Each unit mounted on a printed circuit board is described within the square enclosed by a bold dotted line on the circuit diagram.

1. Pre Amp . . . . . mounted on P.W. Board P100
2. MPX . . . . . mounted on P.W. Board P300
3. Fuse . . . . . mounted on P.W. Board P400
4. Dolby . . . . . mounted on P.W. Board P500
5. Oscillator . . . . . mounted on P.W. Board P900

2. TEST EQUIPMENT REQUIRED FOR SERVICING

For measuring or checking your Cassette Deck, the following instruments and materials are necessary.

- VTVM
- Audio Oscillator (AF OSC)
- Attenuator (600 Ω)
- Oscilloscope
- Bandpass Filter (1 kHz)
- IEC A-Curve Filter
- Wow and Flutter Meter
- Torque Meter (Cassette Type)
- Digital Frequency Counter
- Distortion Meter
- Blank Tapes (Completely erased with bulk eraser)
  TDK AC-211 (Normal)
  TDK AC-511 (CrO_2)
  SONY CS-30 (Fe-Cr)

NOTE: If any doubt is noted in a measured value, use new tape.

- Test Tapes (New Tape)
  MTT-111 Wow and Flutter, Tape Speed (1-7/8 I.P.S.)
  MTT-112 Measurements of Output Level and Signal-to-Noise Ratio
  MTT-150 Adjustment of Output Level
  MTT-216 Frequency Response (for Normal)
  MTT-316 Frequency Response (for CrO_2, Fe-Cr)
  MTT-121 Cross Talk
  MTT-141 Channel Separation
  MTT-111SP Wow and Flutter, Tape Speed (3-3/4 I.P.S.)

BIAS and EQ switches setting in accordance with tape used are as follows:

Tape	Switch Position	
	EQ Switch	BIAS Switch
AC-211	■	■
AC-511	▬	▬
CS-30	▬	■

3. CIRCUIT DESCRIPTION

3.1 TAPE SPEED SELECTOR (U, C, A version only)

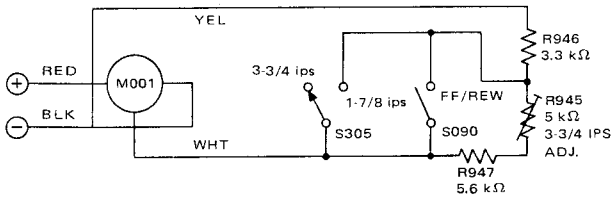
Tape speed is changed by switching the motor speed to 1,800 rpm for 1-7/8 ips or to 3,600 rpm for 3-3/4 ips. In fast-forward or rewind operation, however, the motor always rotates at 1,800 rpm.

NOTE: The N version is not equipped with the tape speed selector. The motor and motor pulley used in the N version are different from those used for the U, C, A version.

1. As shown in the figure below, the motor rotates at 1,800 rpm when R945 (5 kΩ) is shorted by S305 (speed selector) or S090 (FF/REW).
2. When R945 is not shorted, the motor rotates at 3,600 rpm.
3. R945 is used for precisely adjusting the motor speed to 3,600 rpm.
4. To precisely adjust the motor speed to 1,800 rpm, turn the variable resistor built-in the motor.

NOTE: The motor speed is known by playing back the test tape MTT-111 and measuring the reproduced frequency.

Motor speed (rpm)	Reproduced frequency (Hz)
1800	3000
3600	6000

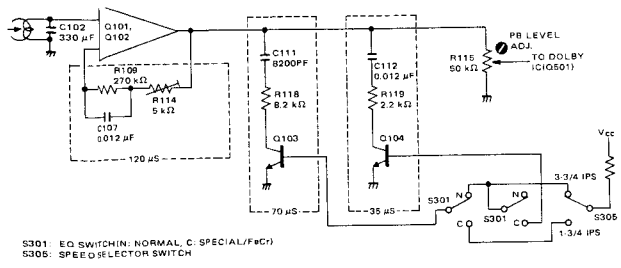


3.2 PLAYBACK TIME CONSTANT

The reason why the playback equalizer time constant is switched is so that any type of tape can have optimum performance at any of the two available tape speeds.

TAPE SPEED (IPS)	TAPE SELECTOR POSITION	TIME CONSTANT (μsec)
1-7/8	NORMAL	120
1-7/8	SPECIAL/FeCr	70
3-3/4	NORMAL	70
3-3/4	SPECIAL/FeCr	35

The time constant is selected between 35, 70 and 120 μs using a transistor switching circuit.

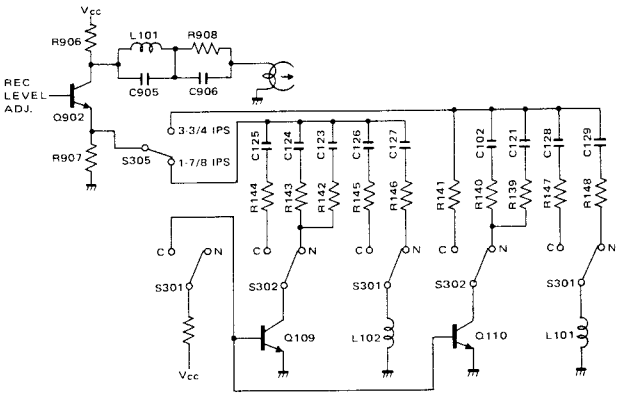


S301: EQ SWITCH(N: NORMAL, C: SPECIAL/FeCr)
S305: SPEED SELECTOR SWITCH

3.3 RECORDING COMPENSATION

The method of recording compensation is the same as that used in our existing units where the amount of feedback in the recording amplifier (Q902) is varied.

TAPE SPEED (IPS)	TAPE SELECTOR POSITION	COMPENSATION
1-7/8	NORMAL	Peaking by L102, R146, and C127 only.
1-7/8	FeCr	Mid range compensation by double time constant circuit of R143 and C124 and R142 and C123.
1-7/8	SPECIAL/CrO_2	Mid range compensation by Q109 turned on by R144 and C125.
3-3/4	NORMAL	Peaking by L101, R148, and C129 only.
3-3/4	FeCr	Mid range compensation by R140, C122, R139, and C121 as Q110 is turned on.

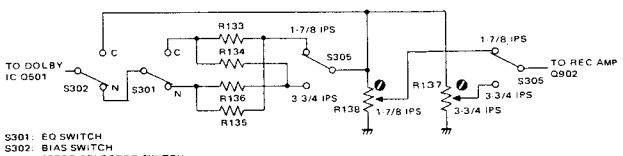


S301: EQ SWITCH
S302: BIAS SWITCH
S305: SPEED SELECTOR SWITCH
ALL SWITCHES ARE IN NORMAL POSITION.

3.4 RECORDING CURRENT

1. The recording current at a tape speed of 3-3/4 ips is smaller than that at 1-7/8 ips.
2. The recording current is varied by changing the resistance connected in series to the head according to the combination of the type of tape and the tape speed.

TAPE SPEED (IPS)	NORMAL	SPECIAL/ CrO_2	FeCr	
1-7/8	R135	–	R133	RESISTOR CONNECTED
3-3/4	R136	–	R134	
1-7/8	52	64	54	RECORDING CURRENT (μA)
3-3/4	49	60	54	
1-7/8, 3-3/4	420	570	450	BIAS CURRENT (μA)

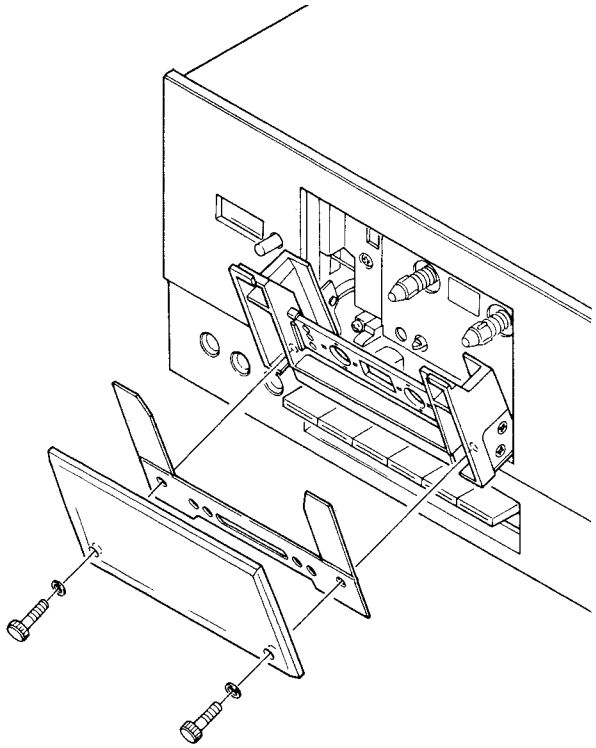


S301: EQ SWITCH
S302: BIAS SWITCH
S305: SPEED SELECTOR SWITCH
ALL SWITCHES ARE IN NORMAL POSITION.

4. DISASSEMBLY

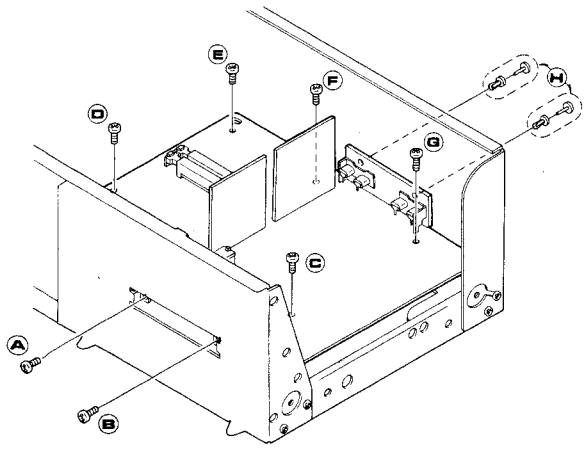
4.1 REMOVING THE CASSETTE CASE ESCUTCHEON

Remove the two screws holding the escutcheon and take this out for removal.



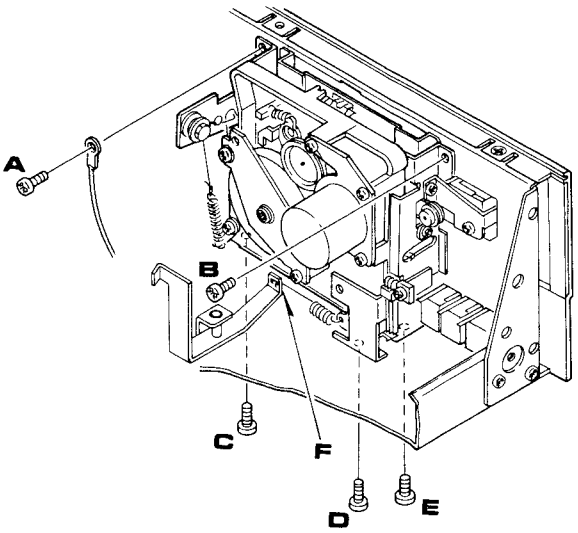
4.2 REMOVING THE PRE AMP P.W. BOARD

Remove the seven screws A, B, C, D, E, F, G and H holding the Pre Amp P.W. board. Then, draw it out with taking care of not applying excessive force to any lead wire.



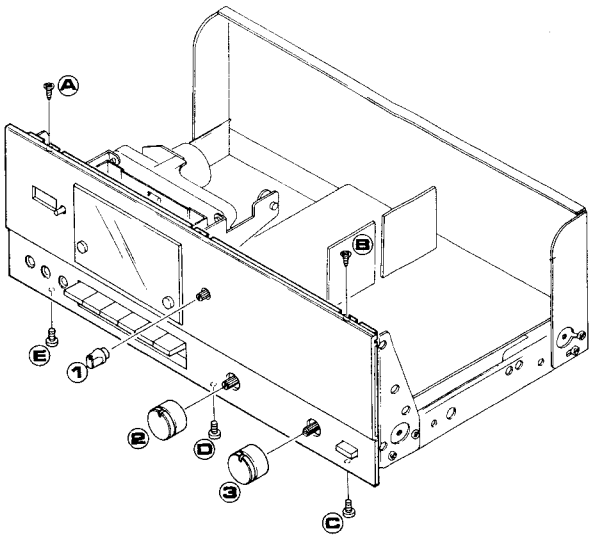
4.3 REMOVING THE MECHANICAL CHASSIS

1. Remove the five screws A, B, C, D and E holding the mechanical chassis.
2. Remove the record lever spring assembly F. Then, draw the chassis out with taking care of the tape counter and operating levers.



4.4 REMOVING THE FRONT PANEL

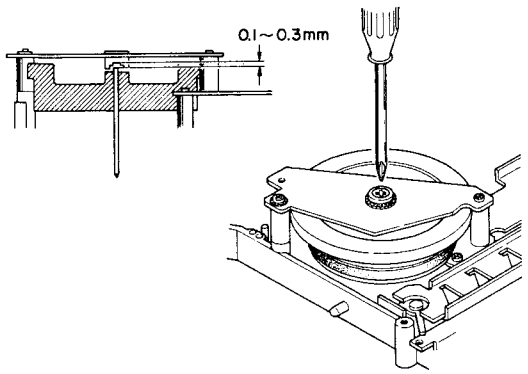
Remove the three knobs 1, 2, and 3. Then, remove the five screws A, B, C, D, and E.



5. MECHANICAL ADJUSTMENTS

5.1 ADJUSTING THE FLYWHEEL THRUST

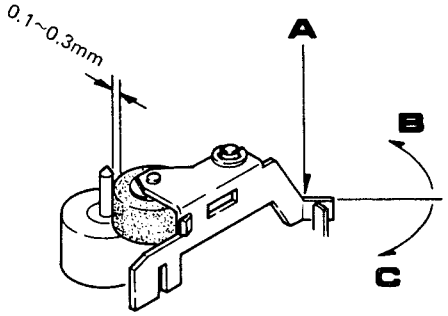
Adjust the thrust screw at the flywheel bracket until the clearance between the capstan tail end and thrust bearing is 0.1 to 0.3 mm as shown, using a phillips screw driver. For adjusting, feel of axial dropping of the flywheel for proper clearance as this cannot be seen through. Then paint the screw to lock.



5.2 ADJUSTING THE PAUSE TIMING

Set the unit in the play mode of operation. Then, adjust the bend angle of the pinch roller bracket arm (point A in the line drawing) until the clerance between the pinch roller and capstan is 0.1 to 0.3 mm at the time when the take-up reel is stopped by slowly pressing the PAUSE pushbutton down.

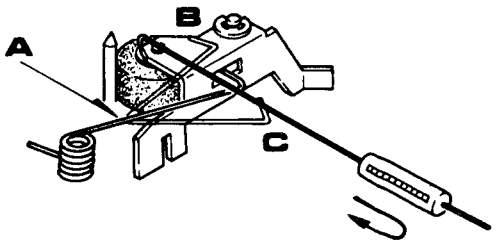
NOTE: **To widen the clearance, make the bend angle smaller (in the direction C). To make the clearance narrower, widen the bend angle (in the direction B).**



5.3 ADJUSTING THE PINCH ROLLER PRESSURE

Measure the pressure of the pinch roller using a gauge as shown. For measurement, draw the pinch roller in the arrow direction in which it is detached from the capstan shaft and gradually return it toward the capstan. Read the gauge at the time when the pinch roller starts turning. The standard pressure is 300±50 g. If the pressure is out of the range, bend the pinch roller spring around the point A in the direction B or C.

NOTE: **To make the pressure strong, bend in the direction B. To make the pressure weak, bend in the direction C.**



5.4 ADJUSTING THE PLAY TIMING

It is normal that when the PLAY pushbutton is depressed, the take-up reel table turns first, then the pinch roller is rotated. The reel table and pinch roller must not start turning at the same time.

NOTE: **Make certain that such a subsequent operation is made irrespective of locking state is depressed slowly without loading the tape.**

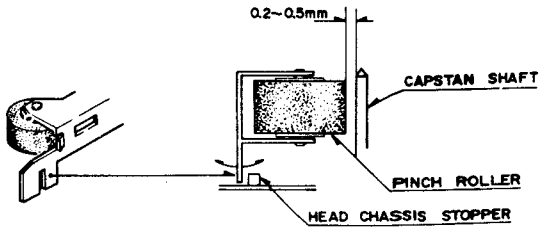
1. Checking for Adjustment

Check whether or not the clearance between the pinch roller and capstan is 0.2 to 0.5 mm when the take-up reel table starts turning with the PLAY pushbutton depressed slowly.

2. Adjustment

Bend the pinch roller bracket at the point that touches the head chassis stopper. In the line drawing, bending left reduces the clearance between the capstan and pinch roller.

NOTE: **Make certain that the pinch roller bracket does not leave touching the head chassis stopper in the play mode of operation as a result of excessive bending.**

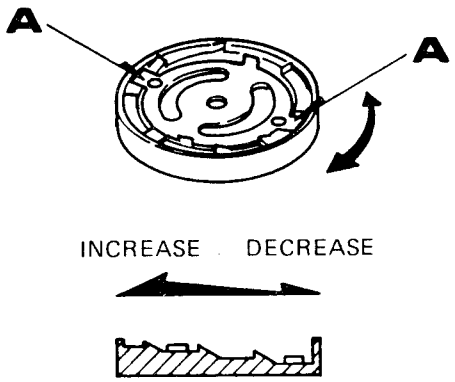


5.5 ADJUSTING THE PLAY TORQUE

Put the two pawls of the circular plate spring on proper stepped position of the reel rest. The adjustable torque range is 40 to 70 g·cm.

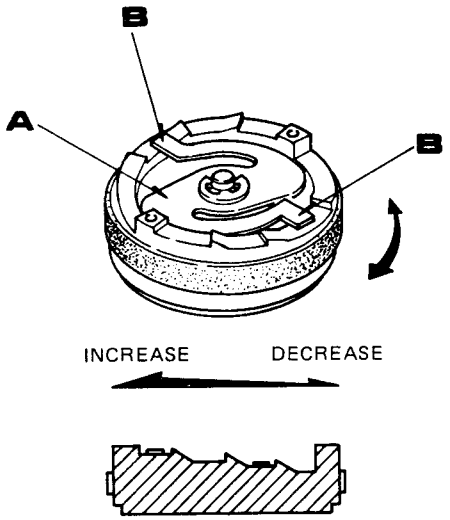
To make the torque high, put the pawls on a shallow step. For lower torque, put them on a deeper step.

- **Checking the take-up clutch for sliding**
  Make certain that the flywheel rotates freely when the reel table is locked. The flywheel that revolves irregularly or stops is not acceptable.



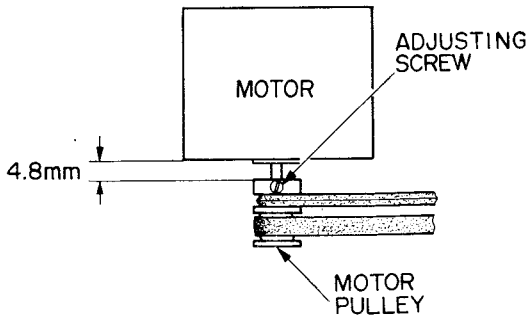
5.6 ADJUSTING THE FAST FORWARD AND REWIND TORQUE

The fast forward and rewind idler has a torque adjust plate spring (part A in the line drawing), which has two pawls (part B) at its ends. Set the pawls in proper one of the three steps. To make the torque high, set the pawls in the shllowest step. For lower torque, set in the deepest step.



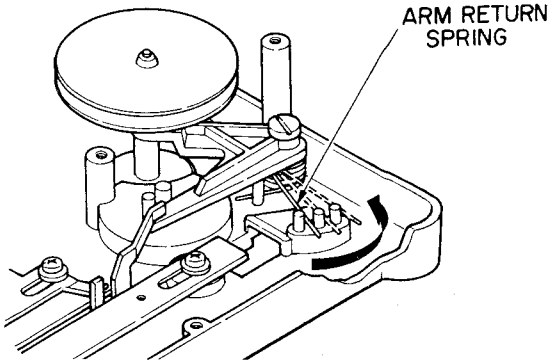
5.7 POSITIONING THE MOTOR PULLEY

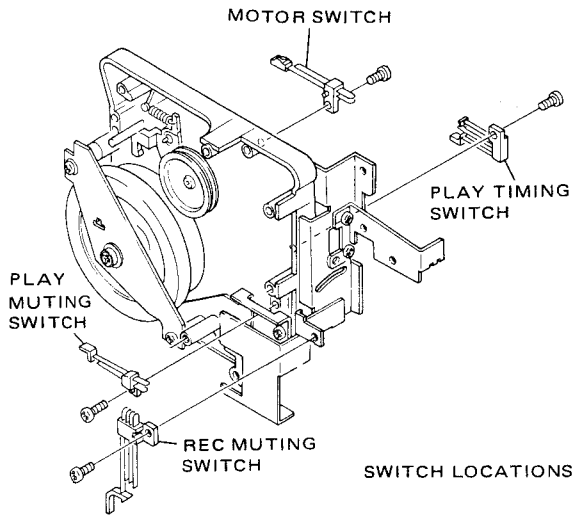
Loosen the set screw and adjust the motor pulley position until the clearance between the pulley and motor is 4.8 mm as shown. Tighten the set screw.



5.8 ADJUSTING THE REWIND IDLER SIDE PRESSURE

Make certain that in the rewind mode of operation, the rewind idler does not slip on the supply reel table when this is held by hand. If it slips, change the hanging position of the rewind idler arm return spring on the chassis in the arrow direction step by step until it does not slip.



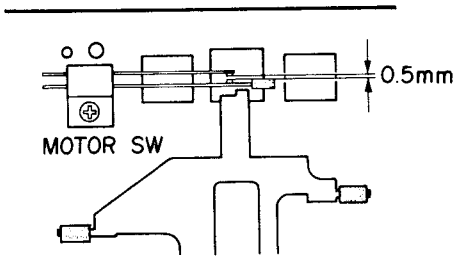


SWITCH LOCATIONS

5.9 POSITIONING THE SWITCHES

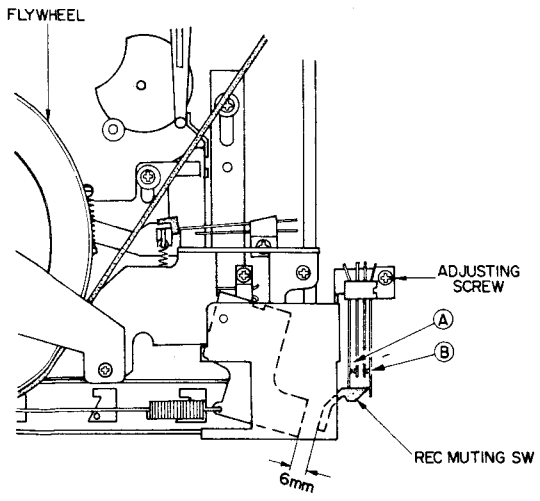
1. Motor Switch

Turn the motor switch in the arrow direction until it is screwed tightly. Make certain that the contact gap is wider than 0.5 mm.



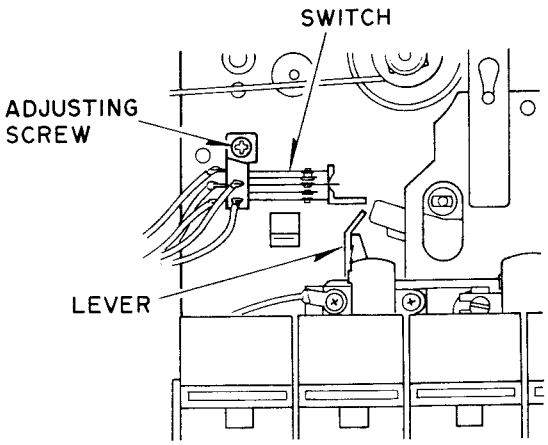
2. Record Muting Switch

In the stop state, loosen the screw holding the record muting switch and position this so that the clearance between its end mold tip and mounting bracket may be 6 mm. Tighten the screw. Make certain that when the record lever is pressed in, the record muting switch contact A is made close and the contact B is broken out securely.



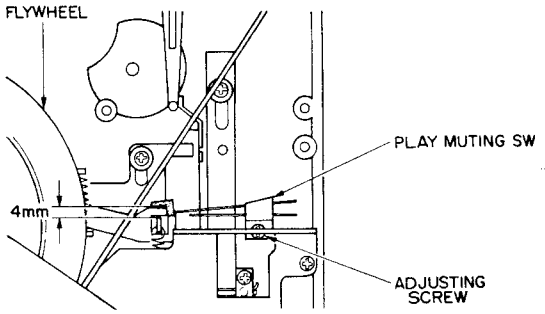
3. FF and REW Switches

The FF and REW switches S090 should be placed in position where they can be actuated as soon as possible when the FF and REW buttons are depressed, respectively.



4. Play Muting Switch

In the stop state, loosen the screw holding the play muting switch and position this so that the clearance between its end tip and play lever may be 4 mm.



6. ELECTRICAL ADJUSTMENTS

Precautions before Adjustment

1. Before playing the test tape back, thoroughly demagnetize the heads, capstan and similar metal parts using an eraser as the test tape-recorded tone is easily erased.
2. Do not place the test tape on any measuring instrument.
3. Do not put the test tape near a place where the eraser is used.
4. Method of Demagnetization: — Turn the eraser power switch on at a remote position far away from the heads. Bring the eraser close to the heads, capstan and other parts to be demagnetized, and move it up and down four or five times to demagnetize. Slowly separate the eraser far away from the parts, and turn the power switch off.
5. Do not use any magnetized adjusting tool. When using it, demagnetize it from time to time in the course of each adjustment.
6. Do not turn semi-fixed resistor more than needed.
7. Do not apply locking bond excessively.

Definitions

1. The "normal playback state" is an operating state of the tape deck which plays back the MTT-150 test tape and is adjusted so as to produce a 580mV output at the LINE OUTPUT terminal with the load assuming the measuring instrument input impedance of greater than 100 kΩ and with the TAPE SELECTOR switch set at the NORMAL position.
2. The "normal recording state" is an operating state of the tape deck which records a 1 kHz signal to a specified recording level for which the recording level control is adjusted with the 1 kHz signal applied at a specified input level to the MIC terminal.
   In the normal recording state, therefore, this tape deck is set up with the level control to the state that the Peak Level Displays may illuminate to the 0 VU with a 1 kHz, 1 mV input signal applied.

6.1 HEAD AZIMUTH ADJUSTMENT

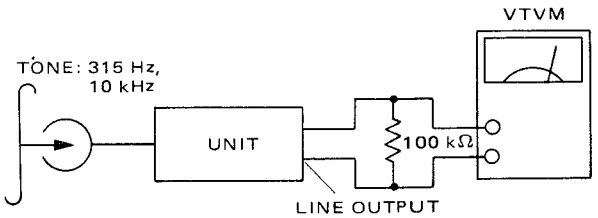
SET UP

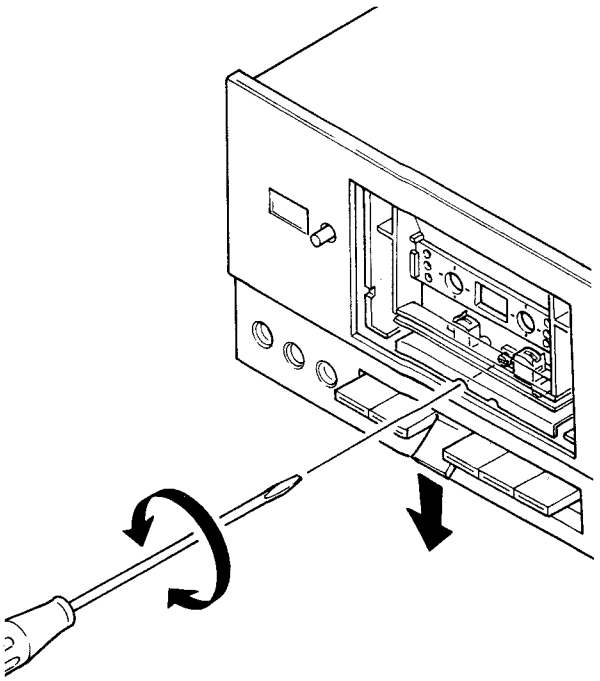
1. Power voltage:- 50 or 60 Hz AC voltage rated for the unit to be used in a market country.
2. TAPE SELECTOR switch position:- NORMAL.
3. Load:- Measuring instrument input impedance.
4. Output terminal used:- LINE OUTPUT.
5. Test tape used:- MTT-115C (31.5 Hz to 10 kHz).
6. Tape Speed:- 1-7/8 IPS.

PROCEDURES

1. Play the 315 Hz and 10 kHz portions of the test tape MTT-115C back. Adjust the head azimuth adjusting screw for maximum VTVM read.
2. If the peak output reads of the right and left channels are different, set the screws to obtain the mechanical center between the peaks.
3. After adjustment, lock the screw with bond.

Mode: Playback





CAUTION

After adjustment, repeat the playback and stop setting a few times to make certain of no head azimuth deviation.

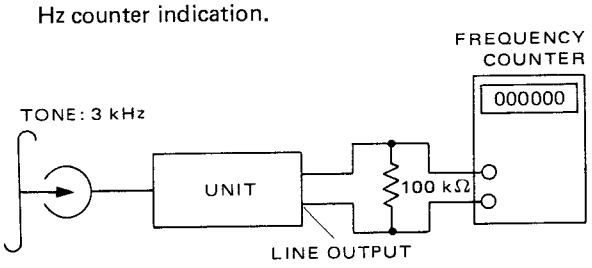
6.2 TAPE SPEED ADJUSTMENT

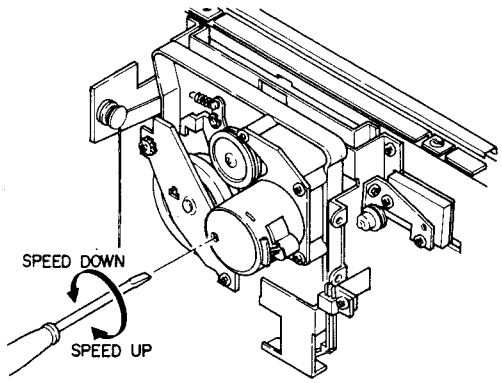
SET UP

1. Power voltage:- 50 or 60 Hz AC voltage rated for the unit to be used in a market country.
2. Output terminal:- LINE OUTPUT (or DIN).
3. Test tape used:- MTT-111 (3 kHz Tone) at 1-7/8 IPS.
   MTT-111SP at 3-3/4 IPS.
4. Unit position:- Vertical.

PROCEDURES

1. For 1-7/8 ips, play the mid portion of the test tape MTT-111 back. Adjust the tape speed adjusting variable resistor inside the motor for 2990 to 3010 Hz counter indication.
2. For 3-3/4 ips, play the mid portion of the test tape MTT-111SP back. Adjust R945 for 2990 to 3010 Hz counter indication.





CAUTIONS

1. For adjustment, the tape deck should be set up in the normal operating condition.
2. Do not adjust the variable resistor more turns than needed.
3. Do not proceed with adjustment after the tape deck temperature has changed.
4. If a strong shock or similar vibration is applied to the tape deck after adjustment, make certain that the measured tape speed had not changed.
5. If the tape speed deviation occurs, perform the adjustment again.
6. Be careful that the counter may indicate a wrong value because of too low counter input level.
7. Before adjustment, allow for 30 seconds or more after depressing of the PLAY pushbutton.

NOTE: Be sure to carry out the 1-7/8 ips tape speed adjustment for first.

6.3 PLAYBACK EQUALIZER ADJUSTMENT

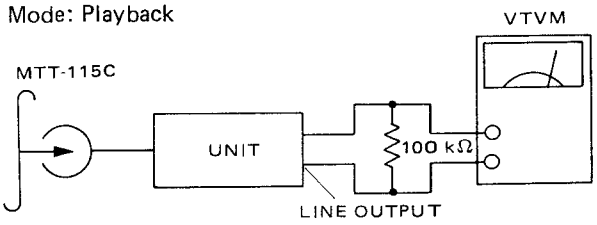
SET UP

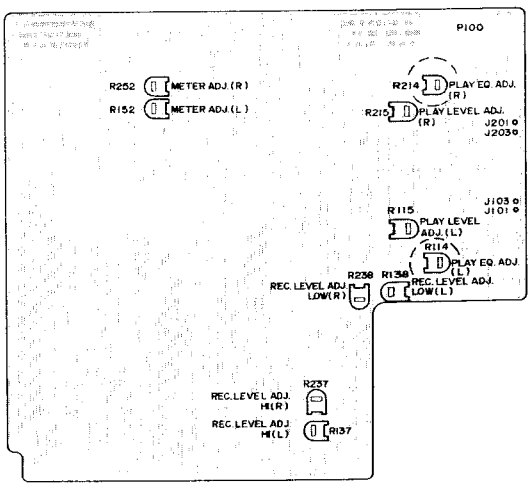
1. Power voltage:- 50 or 60 Hz AC voltage rated for the unit to be used in a market country.
2. TAPE SELECTOR switch position:- NORMAL.
3. Load:- Measuring instrument input impedance.
4. Output terminal:- LINE OUTPUT.
5. Test tape used:- MTT-115C.
6. Tape Speed:- 1-7/8 IPS.

PROCEDURES

1. Play the test tape MTT-115C. Let the 315 Hz signal level be reference as 0 dB.
2. Adjust R114 and R214 (5 kΩ each) for 10 kHz frequency response of 0 to ±1 dB in reference to the 315 Hz signal level.

NOTES: 1. Proceed both for the right and left channels in the same manner.
2. Note that clockwise turning of R114 and R214 will increase the 10 kHz signal output level.





6.4 PLAYBACK OUTPUT ADJUSTMENT

SET UP

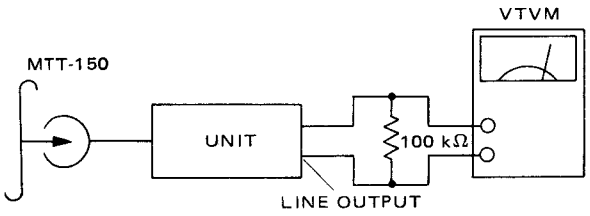
1. Power voltage:- 50 or 60 Hz AC voltage rated for the unit to be used in a market country.
2. TAPE SELECTOR switch position:- NORMAL.
3. Load:- Measuring instrument input impedance.
4. Output terminal:- LINE OUTPUT.
5. Test tape used:- MTT-150.
6. Tape Speed:- 1-7/8 IPS.

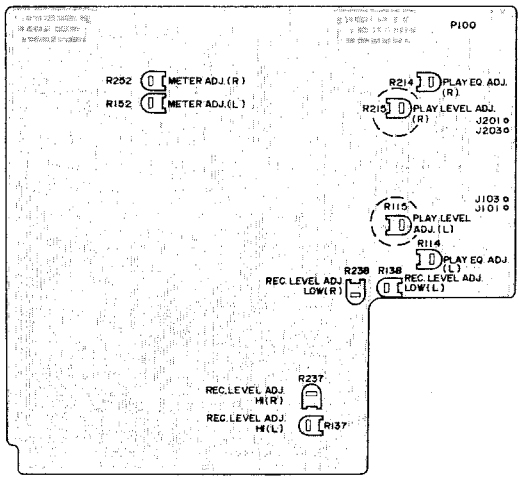
PROCEDURES

Play the test tape MTT-150 back. Adjust R115 and R215 (50 kΩ each) for 580 mV playback output level.

NOTE: Proceed both for the right and left channels in the same manner.

Mode: Playback





CAUTION

This adjustment should be performed after the one for the playback equalizer. If the playback equalizer is adjusted after the playback output adjustment, the playback output should be readjusted.

6.5 VU METER ADJUSTMENT

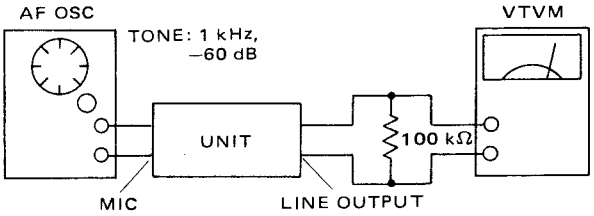
SET UP

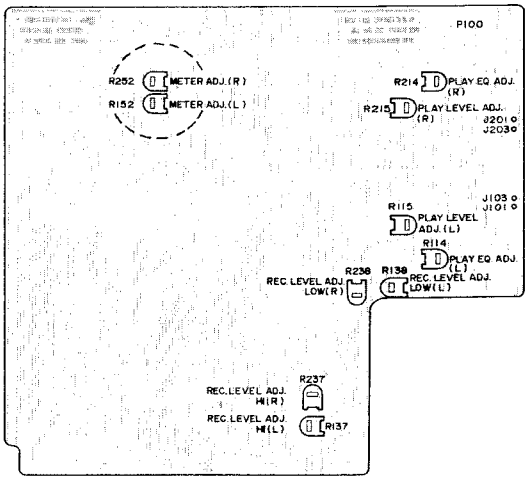
1. Power voltage:- 50 or 60 Hz AC voltage rated for the unit to be used in a market country.
2. TAPE SELECTOR switch position:- NORMAL.
3. Load:- Measuring instrument input impedance.
4. Output terminal:- LINE OUTPUT.
5. Input terminal:- MIC.

PROCEDURES

1. Connect a 1 kHz, −60 dBV input signal to the MIC terminal. Set up the tape deck for the recording mode of operation.
2. Adjust the RECORD LEVEL control for 580 mV output level at monitor out of the LINE OUTPUT terminal.
3. Adjust R152 and R252 (2 kΩ each) until the VU meter pointer deflects to the 0 VU on the VU meter.

Mode: Record





6.6 RECORDING BIAS CURRENT ADJUSTMENT

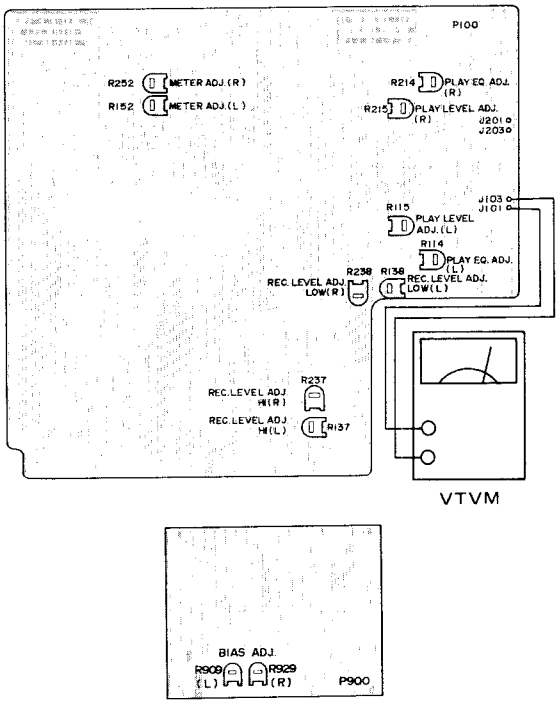
SET UP

1. Power voltage:- 50 or 60 Hz AC voltage rated for the unit to be used in a market country.
2. TAPE SELECTOR switch:- NORMAL.
3. Load:- Measuring instrument input impedance.

PROCEDURES

Set up the tape deck in the recording mode of operation. Connect the VTVM to J101, J103 (Lch) and J201, J203 (Rch). Adjust the variable resistor R909 and R929 for 4.2 mV VTVM read.

NOTES:
1. **Proceed both for the right and left channels in the same manner.**
2. **For the tape deck equipped with the TAPE SELECTOR switch, make certain that the VTVM reads approximately 5.7 mV with it set to the CrO_2 position.**



6.7 RECORDING CURRENT ADJUSTMENT

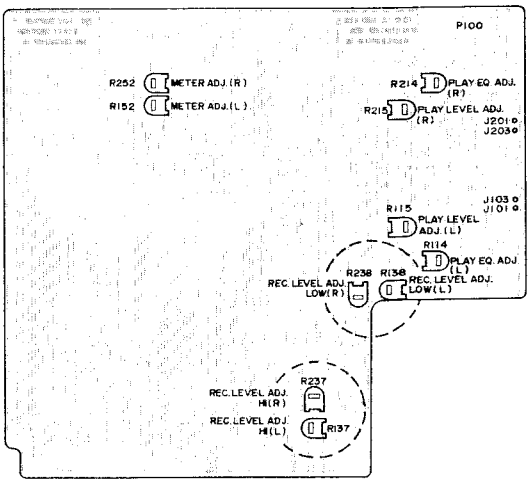
SET UP

1. Power voltage:- 50 or 60 Hz AC voltage rated for the unit to be used in a market country.
2. Input signal:- 1 kHz, 1 mV. (-60 dB)
3. TAPE SELECTOR switch position:- NORMAL.
4. Load:- Measuring instrument input impedance.
5. Tape Speed:- 1-7/8 IPS (or 3-3/4 IPS).

PROCEDURES

1. Stop the recording bias current oscillation by disconnecting the bias circuit. For example, connect the base and emitter of Q941 the base and emitter of Q942. (Complete adjustment as quickly as possible.)
2. Set up the tape deck to the normal recording state. Connect the VTVM across the 10 Ω resistor connected to the head. Supply 1 kHz, 1 mV to the MIC terminal. Adjust the RECORD LEVEL control until the LED meter indicates 0VU. Adjust the variable resistors R138 (or R137*) and R238 (or R237*) until the VTVM reads 0.5 mV, respectively.
3. Operate the oscillation circuit. Record 1 kHz, 1 mV signal. Play back the recorded signal and adjust R138 (or R137*) and R238 (or R237*) for 0VU LED meter reading.

NOTES:
1. **Proceed both for the right and left channels in the same manner.**
2. **After adjustment, release the recording bias current.**
3. **Resistors marked * are to be adjusted for 3-3/4 ips.**



6.8 RECORD-PLAYBACK FREQUENCY RESPONSE ADJUSTMENT

SET UP

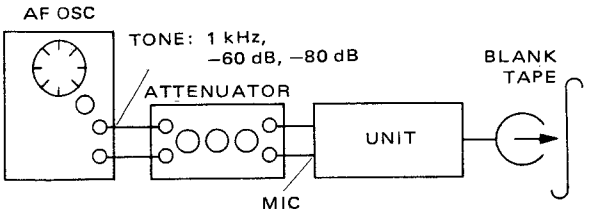
1. Power voltage:- 50 or 60 Hz AC voltage rated for the unit to be used in a market country.
2. Input signal:- 1 kHz, −60 dB with −20 dB referenced as 0 dB.
3. TAPE SELECTOR switch:- NORMAL.
4. Output terminal:- LINE OUTPUT.
5. Load:- Measuring instrument input impedance.
6. Playback output level:- 43 mV (same as recorded signal level).
7. Test tape used:- TDK AC-211.
8. Tape Speed:- 1-7/8 IPS.

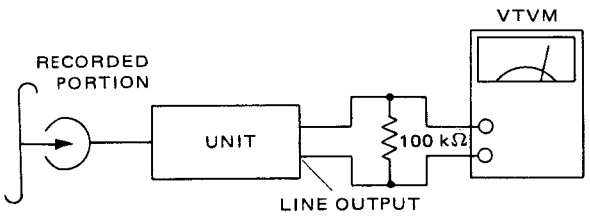
PROCEDURES

1. Connect the input signal to the MIC terminal. Set up the tape deck to the normal recording state.
2. In turn, reduce the input level by 20 dB with the use of the attenuator. Record the 1 kHz and 12.5 kHz tones.
3. Play the 1 kHz, 20 dB-down recorded tone back as 0 dB. Adjust the recording bias current until the 12.5 kHz response is within ±1 dB as referenced to the 1 kHz, 0 dB response.

NOTES: 1. Proceed both for the right and left channels in the same manner.
2. If the recording bias current is reduced in the above adjustment, be sure to measure the distortion.

Mode: Record





6.9 19 KHz FILTER ADJUSTMENT

SET UP

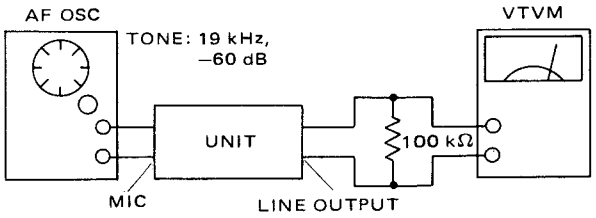
1. Power voltage:- 50 or 60 Hz AC voltage rated for the unit to be used in a market country.
2. Input terminal:- MIC.
3. TAPE SELECTOR switch:- NORMAL.
4. Output terminal:- LINE OUTPUT.
5. Load:- Measuring instrument input impedance.

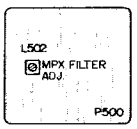
PROCEDURES

1. Connect the 19 kHz, −60 dB input signal to the MIC terminal. Adjust the RECORD LEVEL control for 0 VU.
2. Turn the DOLBY NR pushswitch to the ON position. Adjust the L502 for maximum output level at the LINE OUTPUT terminal.

NOTE: Proceed both for the right and left channels in the same manner.

Mode: Record





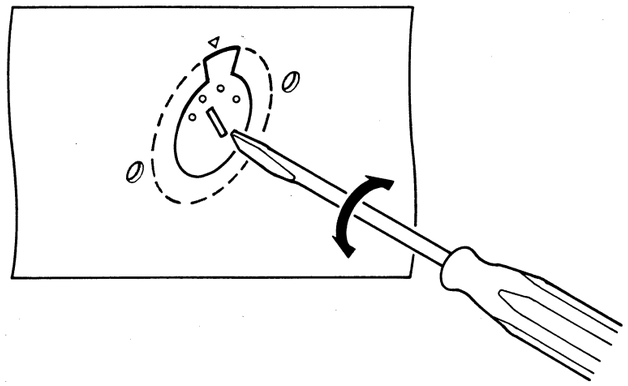
CAUTIONS

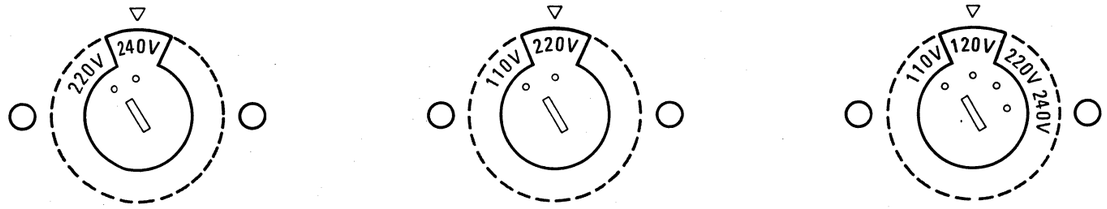
1. The 19 kHz input signal should be as precise as 19±0.01 kHz.
2. If the filter characteristic is better than 30 dB, the adjusting coil needs not to be adjusted since it is factory set.

7. VOLTAGE CONVERSION FOR EUROPEAN MODEL

To convert the unit to a different power source voltage, change the position as illustrated in the drawing below.

CAUTION: DISCONNECT POWER SUPPLY CORD FROM AC OUTLET BEFORE CONVERTING VOLTAGE. DO NOT DISASSEMBLE THE VOLTAGE SELECTOR ABSOLUTERY.

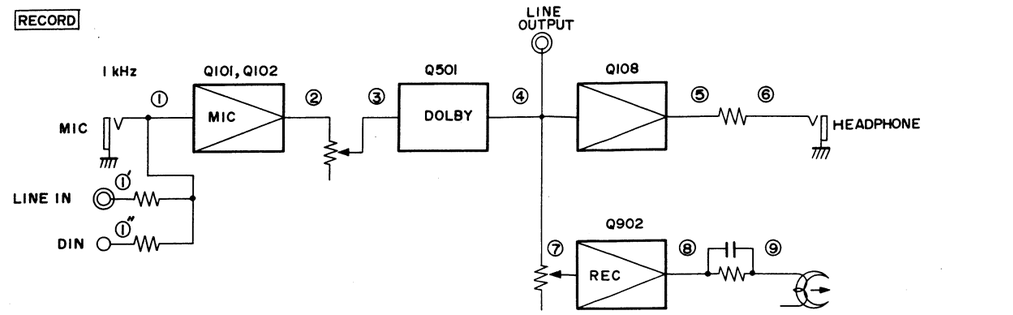


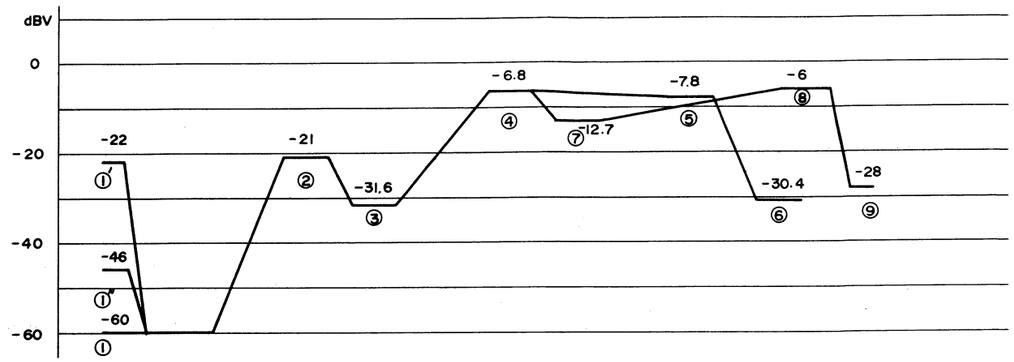


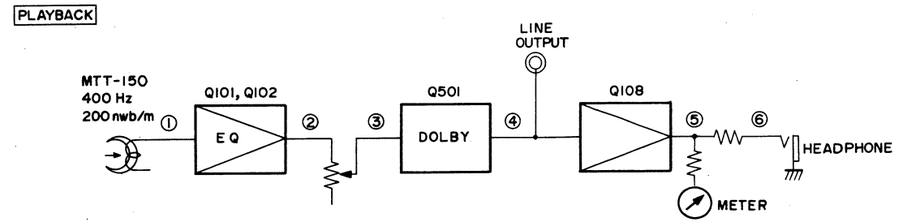
NOTE ON SAFETY: THE PARTS MARKED WITH ⚠ ARE IMPORTANT PARTS ON THE SAFETY. PLEASE USE THE PARTS HAVING THE DESIGNATED PARTS NUMBERS WITHOUT FAIL.

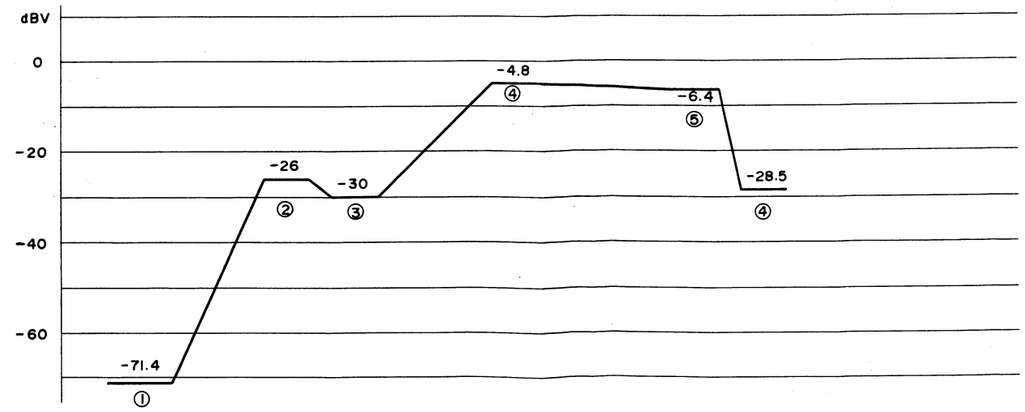
8. DIAGRAMS

8.1 BLOCK & LEVEL DIAGRAMS

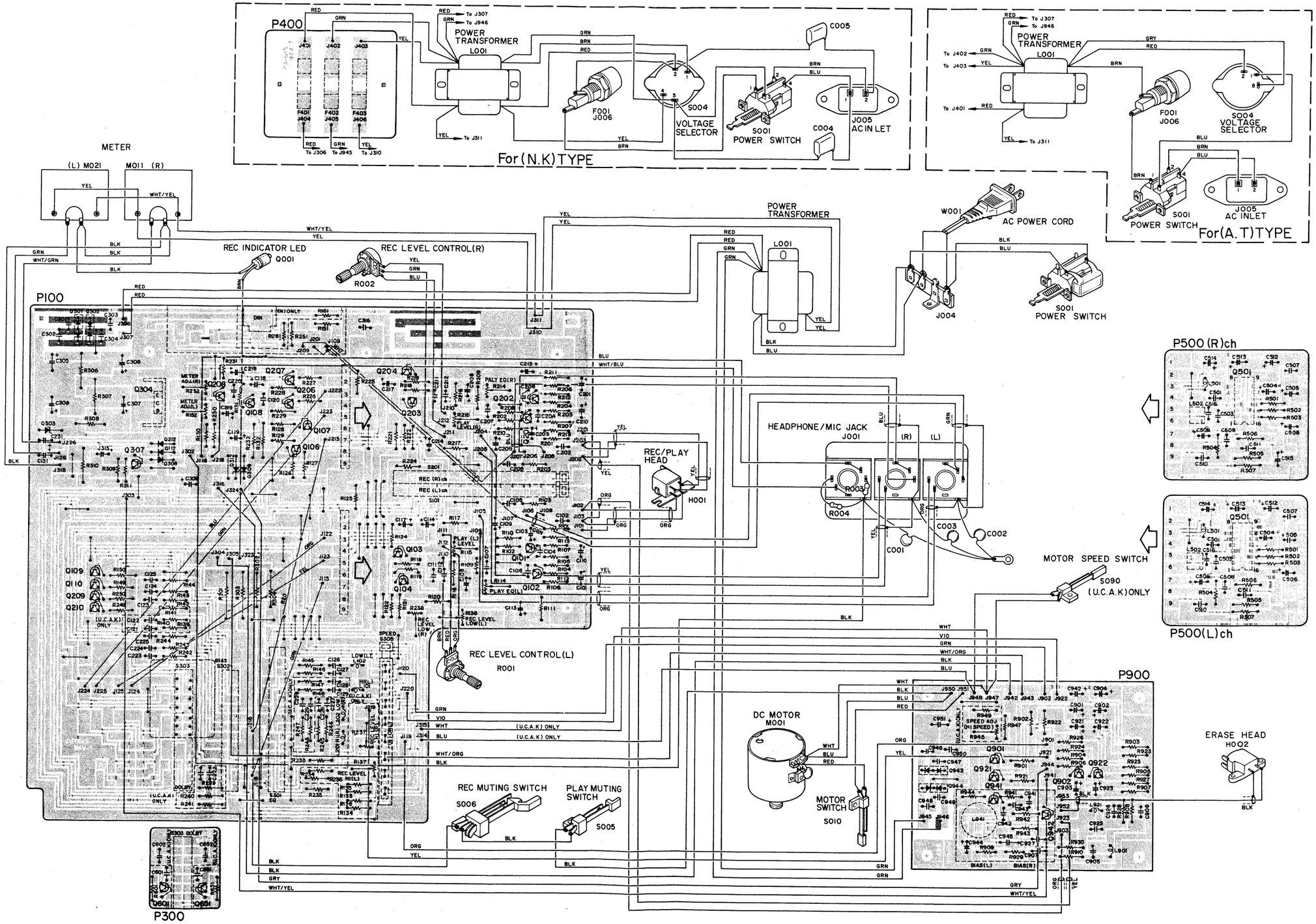






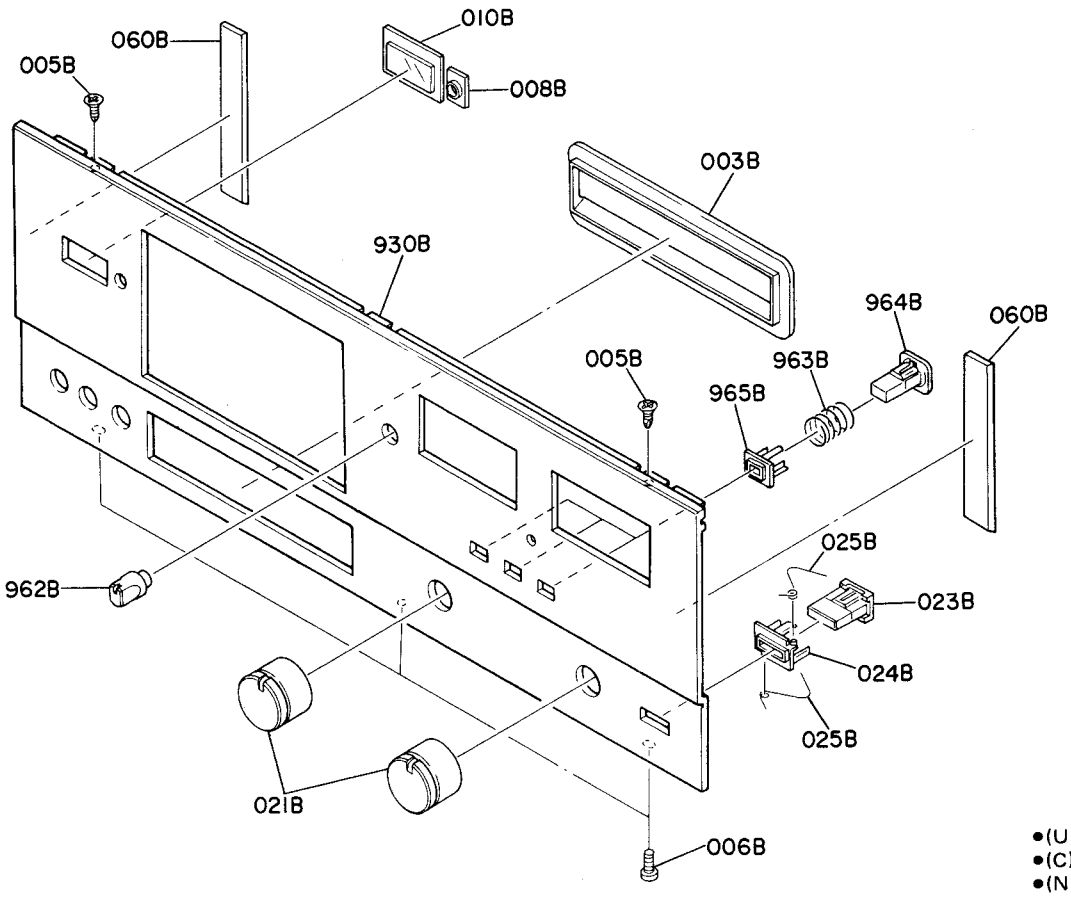


8.2 WIRING DIAGRAM



9. EXPLODED VIEWS AND PARTS LIST

9.1 [P01-99] FRONT PANEL

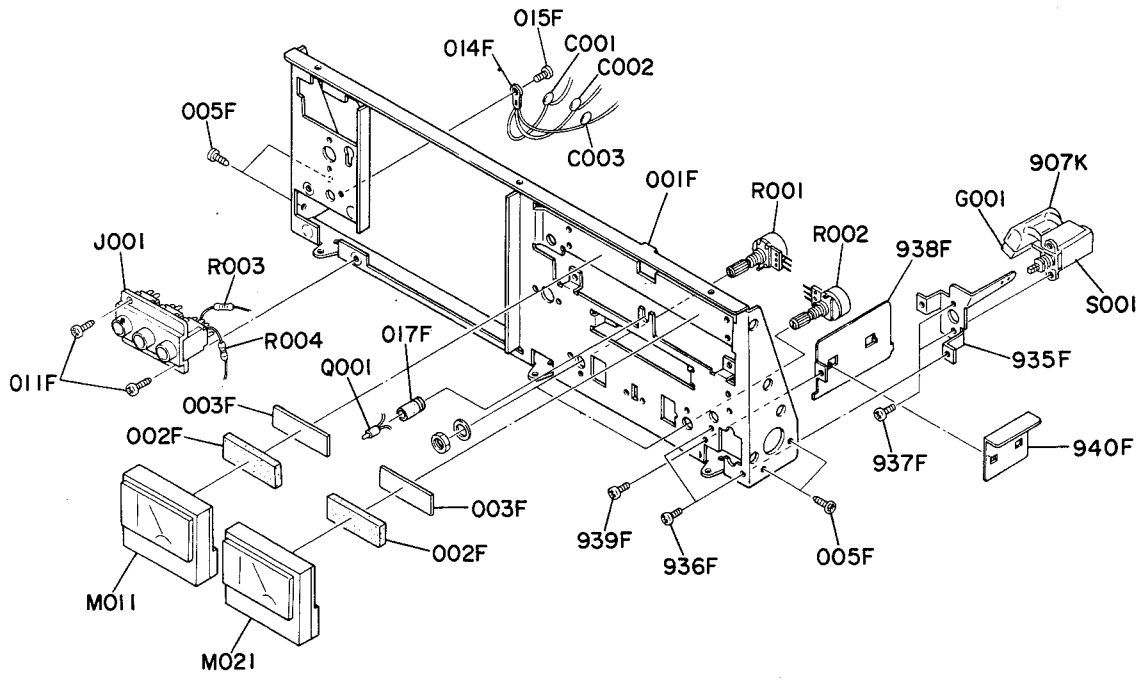


- (U): for U.S.A.
- (C): for Canada
- (N): for Europe
- (A): for Australia

REF. DESIG.	Q'TY U	N	C	A	PART NO.	DESCRIPTION
A	1	1		1	4292063400	Front Panel Assembly
A1			1		4292063410	Front Panel Assembly
003B	1	1	1	1	4276259020	Bushing, Button
008B	1	1	1	1	3448259100	Bushing, Reset Knob
010B	1	1	1	1	4276158040	Window, Counter
024B	1	1	1	1	2127259010	Bushing, Power
060B	2	2	2	2	2128118010	Spacer
930B	1	1		1	4292063010	Escutcheon
930B			1		4292063020	Escutcheon
965B	3	3	3	3	2112259030	Bushing, Selector
						MCD910
A2	1				4292063420	Front Panel Assembly
930B	1				4292063040	Escutcheon

REF. DESIG.	Q'TY U	N	C	A	PART NO.	DESCRIPTION
005B	2	2	2	2	51500306B0	F.H. TAPT. Screw F3 x 6
006B	3	3	3	3	51100306A9	B.H.M. Screw B3 x 6
021B	2	2	2	2	4276154020	Knob, Rec Level
023B	1	1	1	1	2127154010	Knob, Power
025B	2	2	2	2	2127115010	Spring
962B	1	1		1	4276154010	Knob, Speed
963B	3	3	3	3	2112115010	Spring
964B	3	3	3	3	2112154010	Knob, Selector
						MCD910
021B	2				4276154030	Knob, Rec Level
964B	3				2112154110	Knob, Selector

9.2 [P02-99] FRONT BRACKET

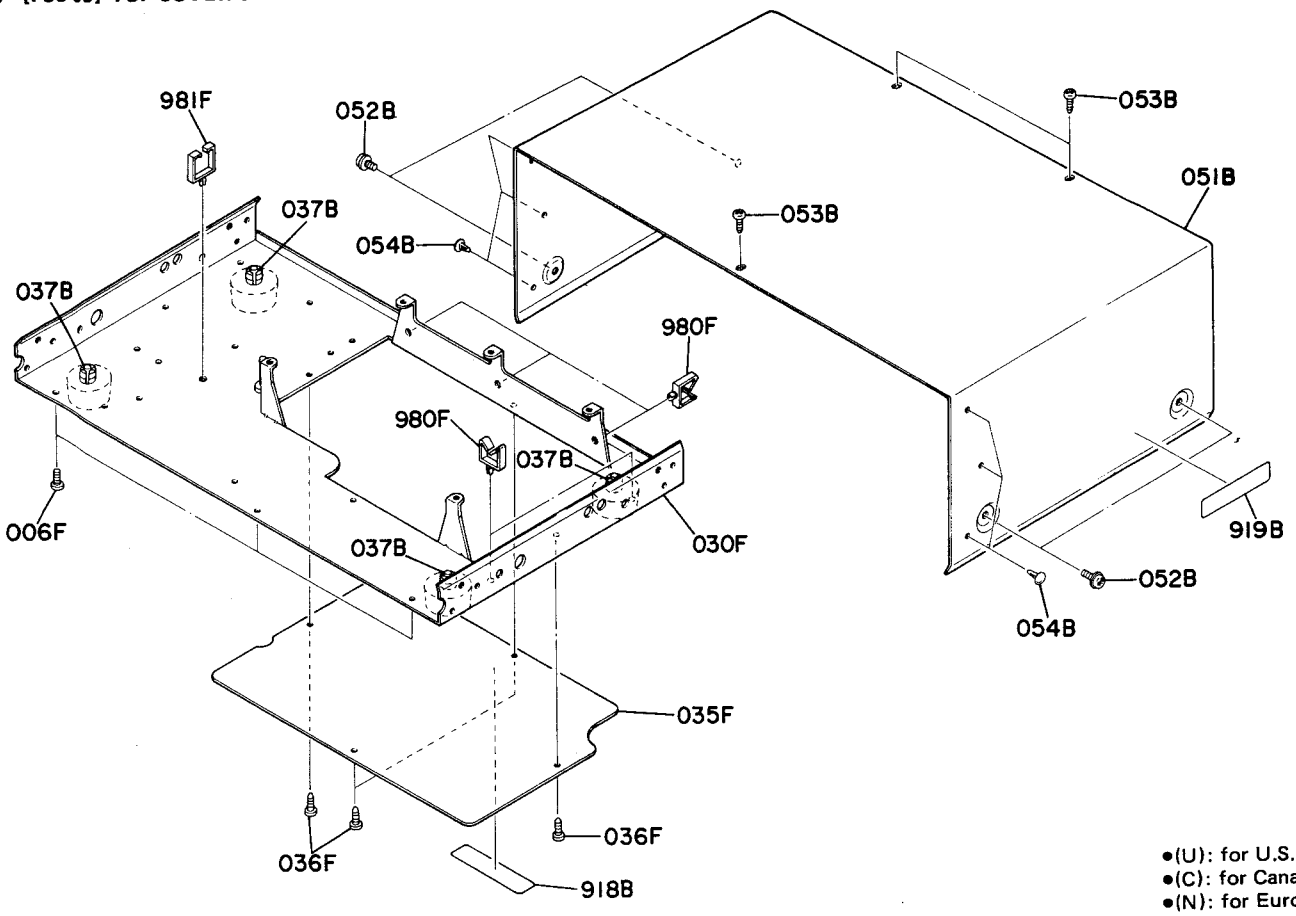


- (U): for U.S.A.
- (C): for Canada
- (N): for Europe
- (A): for Australia

REF. DESIG.	Q'TY U	C	N	A	PART NO.	DESCRIPTION
001F	1	1	1	1	4276160030	Bracket
002F	2	2	2	2	4166056050	Buffer
003F	2	2	2	2	4292118010	Spacer
005F	4	4	4	4	51280306B0	B.H. Tapped Screw B3 x 6
011F	2	2	2	2	51280308B0	B.H. Tapped Screw B3 x 8
014F	1	1	1	1	62031650W0	Lug
015F	1	1	1	1	51100306A9	B.H.M. Screw B3 x 6
017F	1	1	1	1	4214271020	Holder
935F	1	1	1	1	4276160020	Bracket
936F	2	2	2	2	51100306A9	B.H.M. Screw B3 x 6
937F	2	2	2	2	51100306A9	B.H.M. Screw B3 x 6
938F	1	1	1	1	4276109010	Shield
939F	1	1	1	1	51100306A9	B.H.M. Screw B3 x 6
940F			1	1	4276120010	Insulator

REF. DESIG.	Q'TY U	C	N	A	PART NO.	DESCRIPTION
907K	1	1			4276120020	Insulator
C001	1	1	1		DK18102300	Ceramic Cap. 1000pF
C002	1	1	1		DK18102300	Ceramic Cap. 1000pF
C003	1	1	1		DK18102300	Ceramic Cap. 1000pF
R001	1	1	1		RK02030462	Variable Resist 20KΩ(A)
R002	1	1	1		RK02030462	Variable Resist 20KΩ(A)
R003	1	1	1		GD05082140	Resistor 8.2Ω ±5% ¼W
R004	1	1	1		GD05082140	Resistor 8.2Ω ±5% ¼W
J001	1	1	1		YJ01001310	Jack, Mic/Headphone
S001	1	1			SP01010280	Push Switch, Power
S001			1		SP02010440	Push Switch, Power
G001	1				BF10400030	Spark Killer
G001		1			BF33300020	Spark Killer
Q001	1	1	1		HT10004030	L.E.D. SLP-132B
M011	1	1	1		IM11060052	D.C. Meter
M021	1	1	1		IM11060052	D.C. Meter

9.3 [P03-99] TOP COVER & MAIN CHASSIS

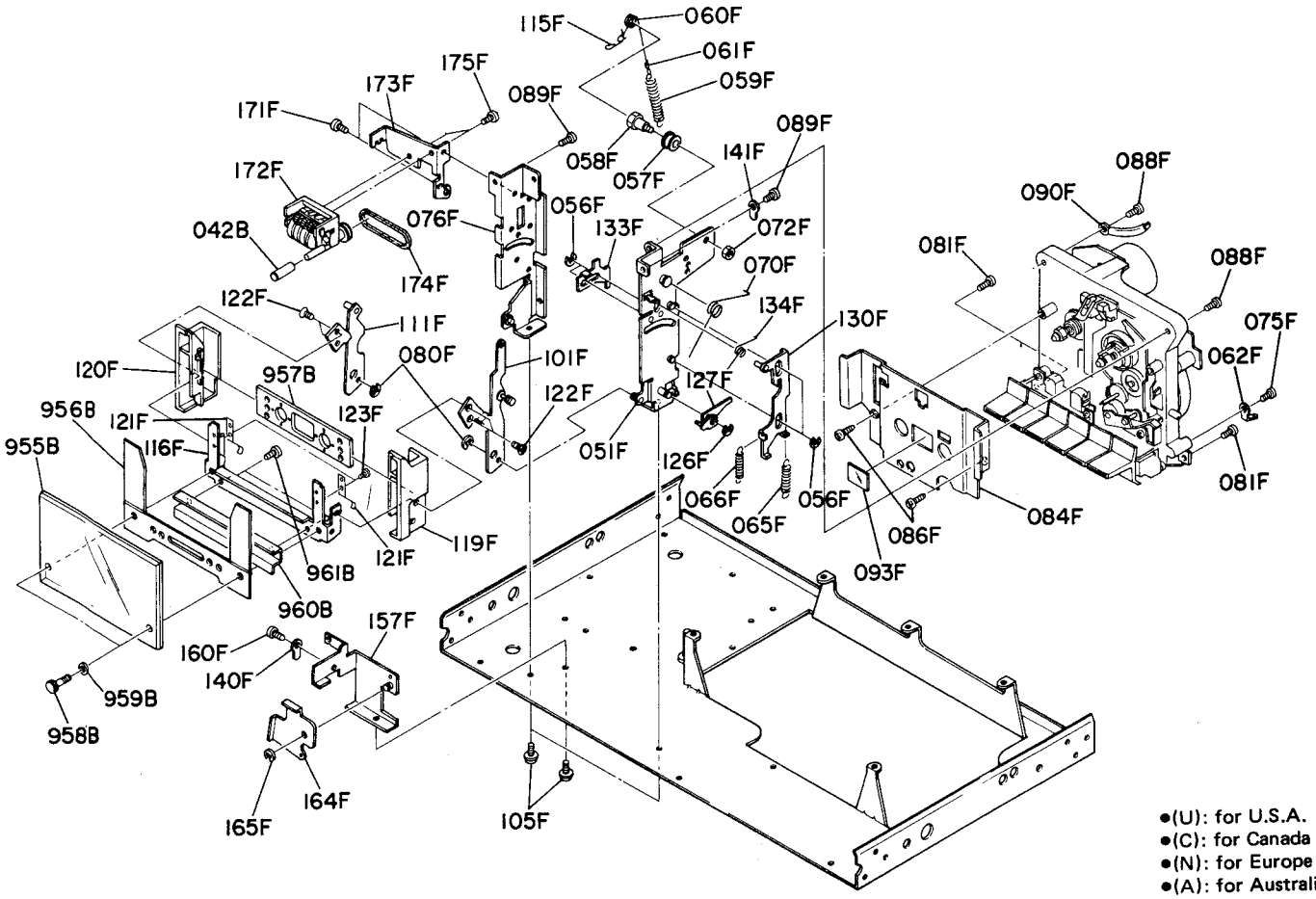


- (U): for U.S.A.
- (C): for Canada
- (N): for Europe
- (A): for Australia

REF. DESIG.	Q'TY U	C	N	A	PART NO.	DESCRIPTION
037B	4	4	4	4	2259057010	Leg
051B	1	1	1	1	4214257010	Lid, Top Cover
052B	4	4	4	4	51480406S9	F. Washer Screw F4 x 6
053B	3	3	3	3	51280308U0	B.H. Tapped Screw B3 x 8
054B	6	6	6	6	2991259010	Bushing
918B	1		1	1	3889861010	Label
918B		1			4113861020	Label
919B	1		1	1	2932861010	Label
919B		1			2911861140	Label

REF. DESIG.	Q'TY U	C	N	A	PART NO.	DESCRIPTION
006F	3	3	3	3	51100306A9	B.H.M. Screw B3 x 6
030F	1	1	1	1	4214105500	Chassis (K)
035F	1	1	1	1	4214257020	Lid
036F	4	4	4	4	51280306B0	B.H. Tapped Screw B3 x 6
980F	5	5	5	5	4214005010	Clamper
981F	1	1	1	1	4276005010	Clamper

9.4 [P04-99] ASSOCIATED MECHANISM FOR CASSETTE TAPE OPERATION

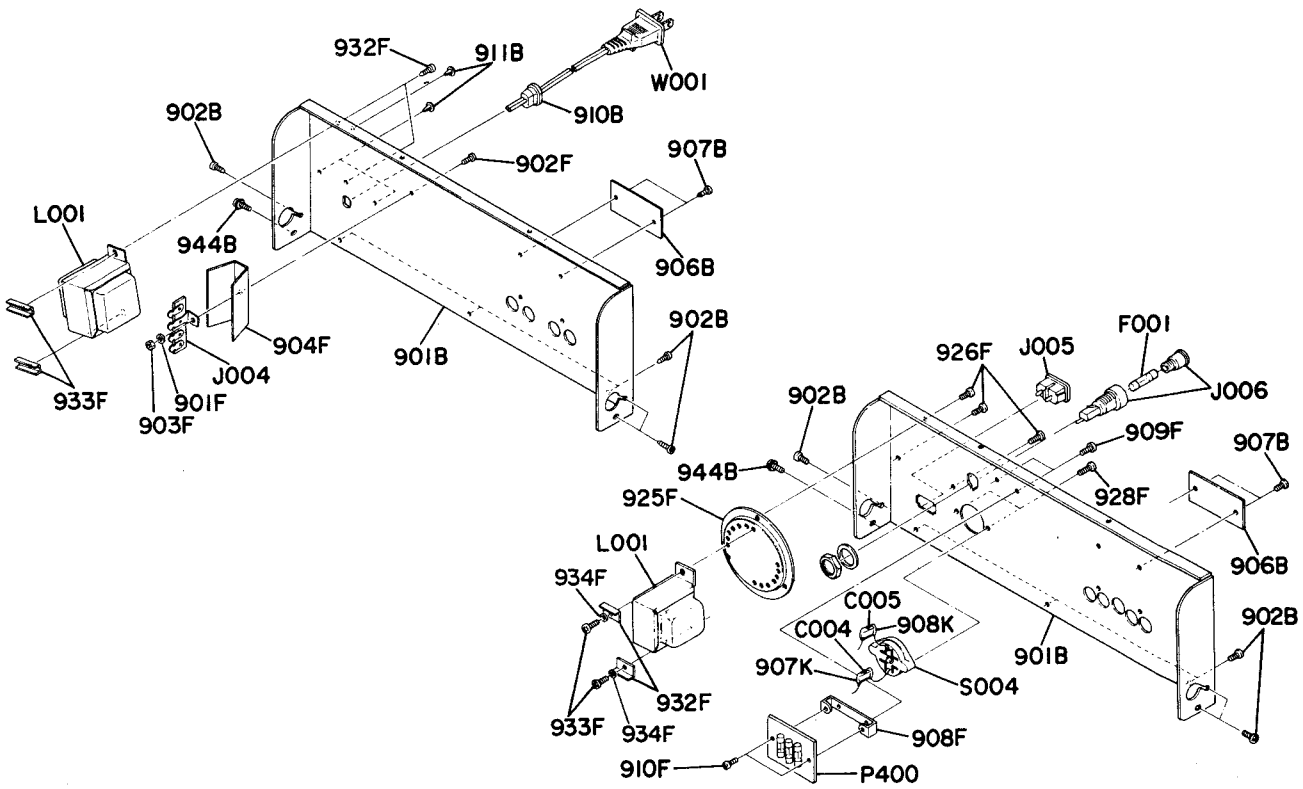


- (U): for U.S.A.
- (C): for Canada
- (N): for Europe
- (A): for Australia

REF. DESIG.	Q'TY U	C	N	A	PART NO.	DESCRIPTION
042B	1	1	1	1	3448067060	Cap, Counter
955B	1	1	1	1	4276158010	Window
956B	1	1	1	1	4276063030	Escutcheon
957B	1	1	1	1	4276063040	Escutcheon
958B	2	2	2	2	4276112010	Shaft
959B	2	2	2	2	59046502G9	Washer
960B	1	1	1	1	4276053010	Cover
961B	2	2	2	2	51380206T0	P.H. Tapped Screw P2 x 6
051F	1	1	1	1	4265160500	Bracket, K (R)
056F	4	4	4	4	64000200R0	RG Ring, E Type
057F	1	1	1	1	4197262010	Pulley
058F	1	1	1	1	4197112040	Shaft
059F	1	1	1	1	4197115020	Spring
060F	1	1	1	1	72081604A0	String (20)
061F	1	1	1	1	56382540G0	Eyelet
062F	1	1	1	1	62031650W0	Lug
065F	1	1	1	1	4265115030	Spring
066F	1	1	1	1	4265115040	Spring
070F	1	1	1	1	4197115030	Spring
072F	1	1	1	1	53110303A9	Hexagon Nut
075F	1	1	1	1	51300306B0	P.H. Tapped Screw P3 x 6
076F	1	1	1	1	4265160510	Bracket, K (L)
080F	2	2	2	2	64000200R0	RG Ring, E Type
081F	2	2	2	2	51060306A9	P.H.M. Screw P3 x 6
084F	1	1	1	1	4265053030	Cover
086F	2	2	2	2	51382606K0	P.H. Tapped Screw P2.6 x 6
088F	2	2	2	2	51100308A9	B.H.M. Screw B3 x 8
089F	2	2	2	2	51100306A9	B.H.M. Screw B3 x 6
121F	2	2	2	2	4265115050	Spring
122F	2	2	2	2	51382605T0	P.H. Tapped Screw P2.6 x 5

REF. DESIG.	Q'TY U	N	C	A	PART NO.	DESCRIPTION
090F	1	1	1	1	1382005030	Clamper
093F	1	1	1	1	4276274010	Reflector
101F	1	1	1	1	4265002500	Arm, K (R)
105F	3	3	3	3	51470306A9	L. Washer Screw L3 x 6
111F	1	1	1	1	4265002510	Arm, K (L)
115F	1	1	1	1	4197258030	Hook
116F	1	1	1	1	4265160030	Bracket
119F	1	1	1	1	4265271010	Holder (R)
120F	1	1	1	1	4265271020	Holder (L)
122F	4	4	4	4	51042605S0	F.H.M. Screw F2.6 x 5
126F	1	1	1	1	64002500R0	RG Ring, E Type
127F	1	1	1	1	4265002520	Arm, Inter Look
130F	1	1	1	1	4265258500	Hook
133F	1	1	1	1	4265354010	Lever
134F	1	1	1	1	4265115010	Spring
140F	1	1	1	1	62031650W0	Lug
141F	1	1	1	1	62031650W0	Lug
157F	1	1	1	1	4197104510	Retainer
160F	1	1	1	1	51100306A9	B.H.M. Screw B3 x 6
164F	1	1	1	1	4197354050	Lever
165F	1	1	1	1	64000300R0	RG Ring, E Type
171F	2	2	2	2	51100306A9	B.H.M. Screw
172F	1	1	1	1	4276052010	Counter
173F	1	1	1	1	4263160010	Bracket
174F	1	1	1	1	4197264010	Belt
175F	2	2	2	2	51100306A9	B.H.M. Screw B3 x 6
						MCD910
956B	1				4276063070	Escutcheon
957B	1				4276063080	Escutcheon

9.5 [P05-99] REAR PANEL



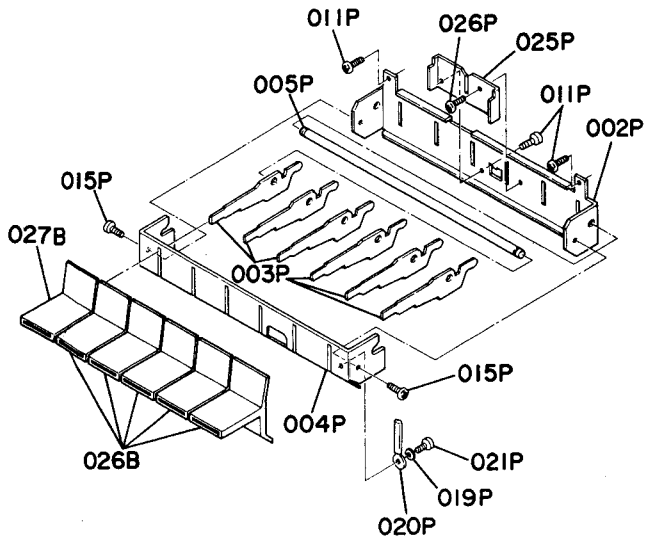
- (U): for U.S.A.
- (C): for Canada
- (N): for Europe
- (A): for Australia

REF. DESIG.	Q'TY U	C	N	A	PART NO.	DESCRIPTION
901B	1	1			4214160020	Bracket, Rear Panel
901B			1		4265160090	Bracket, Rear Panel
901B				1	4265160100	Bracket, Rear Panel
902B	6	6	6	6	51280306U0	B.H. Tapped Screw B3 x 6
906B	1				4292265010	Indicator
906B		1			4292265020	Indicator
906B			1		4292265030	Indicator
906B				1	4292265050	Indicator
907B	2	2	2	2	51760306B0	OS. Tapped Screw 3 x 6
910B	1	1			1455259030	Bushing
911B	3	3			74260029G0	Hole Plug
944B	1	1	1	1	51290308B0	Screw 3 x 8
901F	1	1			54040302A0	Spring Washer
902F	1	1			5110306S9	B.H.M. Screw B3 x 6
903F	1	1			53110303A9	Hexagon Nut
904F	1	1			4114120010	Insulator
908F			1	1	3889160110	Bracket
909F			2	2	5110306S9	B.H.M. Screw B3 x 6
910F			2	2	51100306A9	B.H.M. Screw B3 x 6
925F			1	1	4265160060	Bracket
926F			3	3	5110306S9	B.H.M. Screw B3 x 6
928F			2	2	51280310U0	B.H. Tapped Screw B3 x 10
932F	2	2			51100408S9	B.H.M. Screw B4 x 8
932F			2	2	4265005010	Clamper
933F	2	2			2922005010	Clamper
933F			2	2	51300406B0	P.H. Tapped Screw P4 x 6
934F			2	2	54040402A0	Spring Washer

REF. DESIG.	Q'TY U	C	N	A	PART NO.	DESCRIPTION
907K			1	1	3926120010	Insulator
908K			1	1	3926120010	Insulator
C004			1	1	DF17223800	Film Cap 0.022μF
C005			1	1	DF17223800	Film Cap 0.022μF
F001			1	1	FS10012800	Fuse 125mAT
J004	1	1			YL01040160	Terminal (4P)
J005			1	1	YP04000580	Plug, AC Inlet
J006			1	1	YJ08000290	Jack, Fuse Holder
L001	1	1			TS15406140	Power Transformer
L001			1		TS15406150	Power Transformer
L001				1	TS15406160	Power Transformer
S004			1		BY05060010	Voltage Selector, 110V/120V
S004				1	BY05030010	Voltage Selector, 220V/240V
W001	1	1			YC01900070	A.C. Power Cord
						MCD910
906B	1				4292265150	Indicator

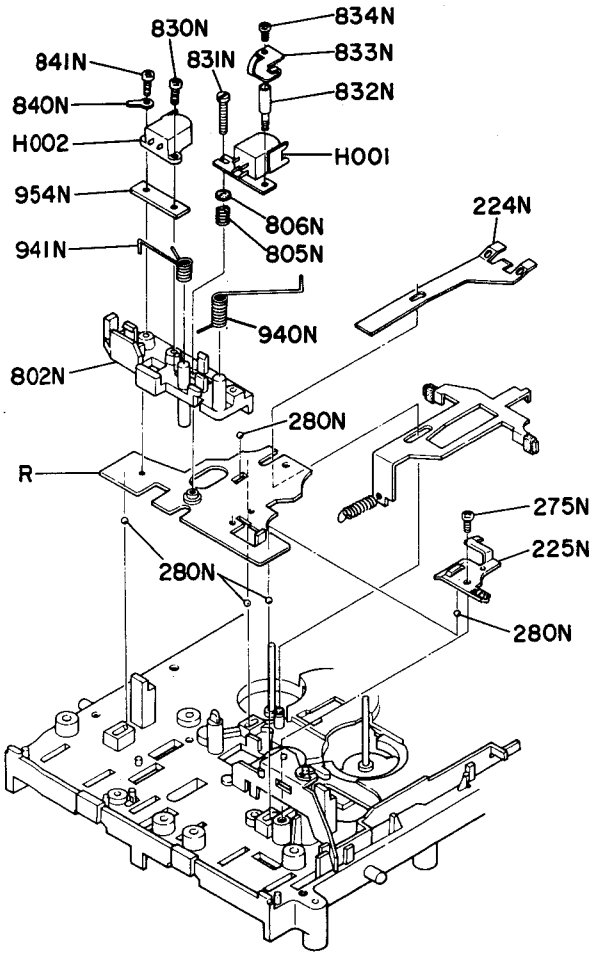
•(U): for U.S.A.
•(C): for Canada
•(N): for Europe
•(A): for Australia

9.6 [P05-00] BUTTONS FOR TAPE OPERATION



REF. DESIG.	Q'TY U	C	N	A	PART NO.	DESCRIPTION
026B	5	5	5	5	4276270010	Buttom
027B	1	1	1	1	4276270020	Buttom, Rec
002P	1	1	1	1	4380160010	Bracket
003P	6	6	6	6	4380354070	Lever
004P	1	1	1	1	4380051010	Guide
005P	1	1	1	1	4380112030	Shaft
011P	3	3	3	3	51300310B0	P.H. Tapped Screw P3 x 10
015P	2	2	2	2	51062603A0	P.H.M. Screw P2.6 x 3
019P	1	1	1	1	54052600R0	T.L. Washer OR
020P	1	1	1	1	1210005010	Clamper
021P	1	1	1	1	51062604A0	P.H.M. Screw P2.6 x 4
025P	1	1	1	1	4383104042	Retainer
026P	1	1	1	1	51062603A0	P.H.M. Screw P2.6 x 3

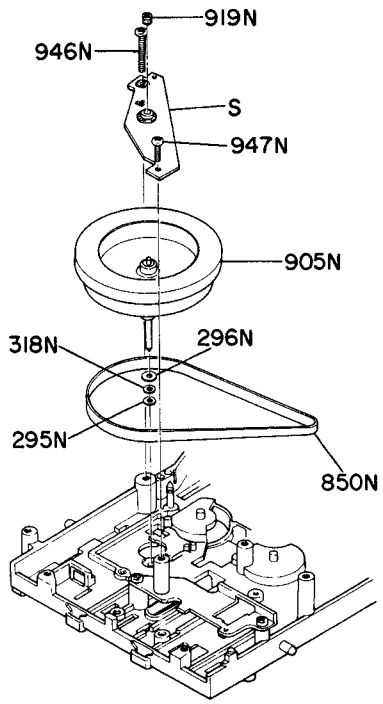
9.7 [P06-99] HEAD CHASSLS



REF. DESIG.	Q'TY U	C	N	A	PART NO.	DESCRIPTION
Q	1	1	1	1	4380105410	Chassis Assembly, Head
224N	1	1	1	1	4380115130	Spring
225N	1	1	1	1	4367115170	Spring
275N	1	1	1	1	5130030880	P.H. Tapped Screw P3 x 8
280N	5	5	5	5	61020010T0	Ball
802N	1	1	1	1	4367160010	Bracket, Head
805N	1	1	1	1	4383115030	Spring
806N	1	1	1	1	3444118070	Spacer
830N	1	1	1	1	51100212A0	B.H.M. Screw B2 x 12
831N	1	1	1	1	4397254090	Pin
832N	1	1	1	1	4380101030	Support
833N	1	1	1	1	4380005010	Clamper
834N	1	1	1	1	51100203A0	B.H.M. Screw B2 x 3
840N	1	1	1	1	62021030W0	Lug
841N	1	1	1	1	51100212A0	B.H.M. Screw B2 x 12
940N	1	1	1	1	4367115040	Spring
941N	1	1	1	1	4367115050	Spring
954N	1	1	1	1	4367118070	Spacer
H001	1	1	1	1	LH42851080	Rec/Play Head
H002	1	1	1	1	LH31000490	Erase Head

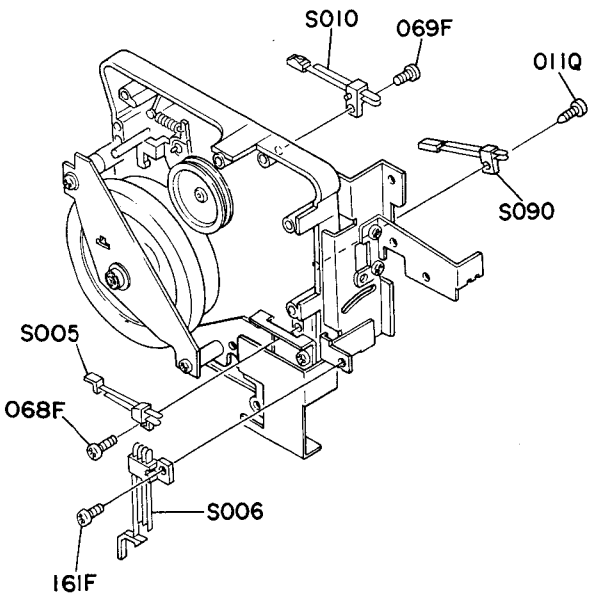
- (U): for U.S.A.
- (C): for Canada
- (N): for Europe
- (A): for Australia

9.8 [P07-99] FLYWHEEL



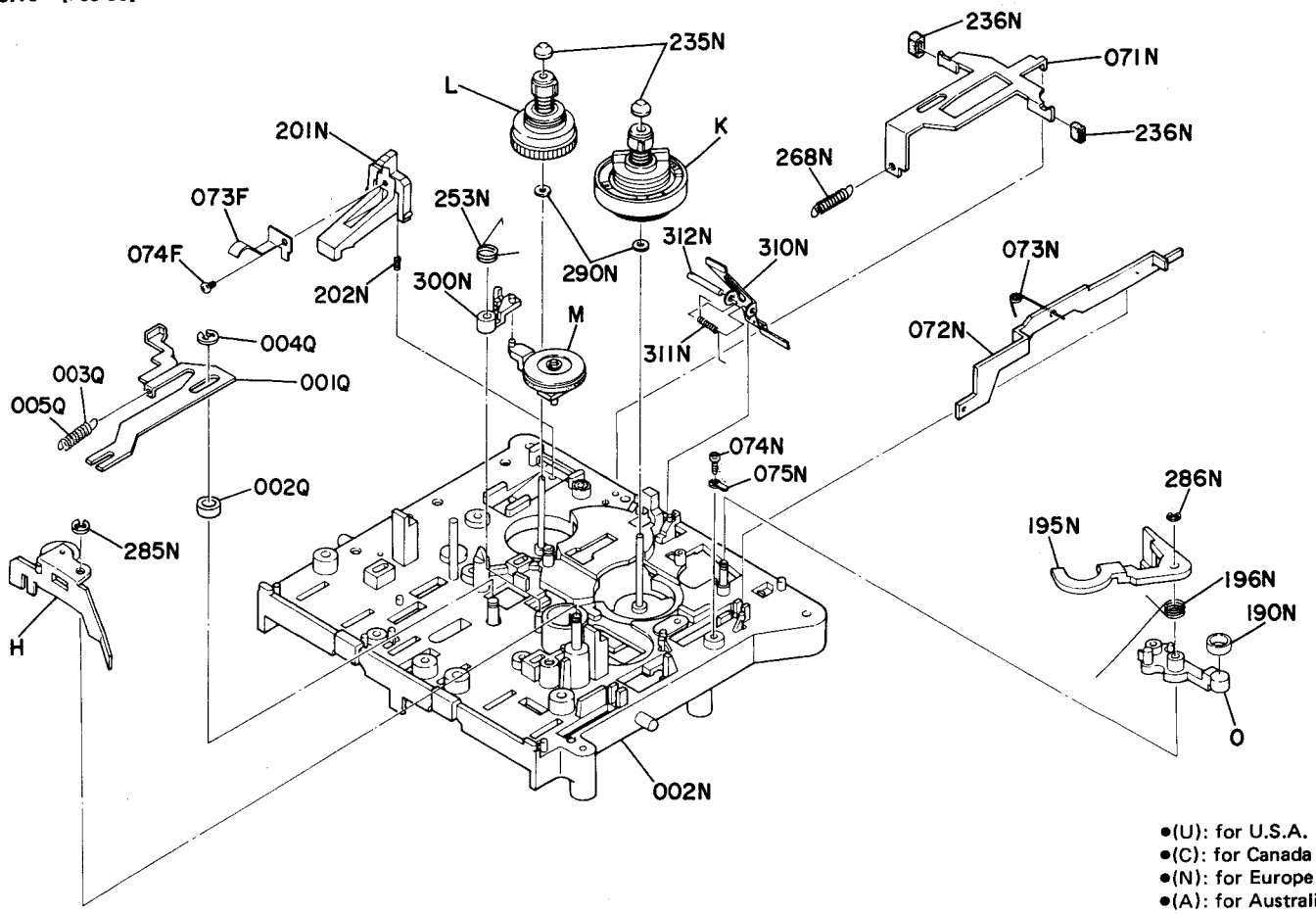
REF. DESIG.	Q'TY U	N	C	A	PART NO.	DESCRIPTION
S	1	1	1	1	4380104400	Retainer Assembly, Flywheel
295N	1	1	1	1	59264702G9	Washer
296N	1	1	1	1	59260702G9	Washer
318N	1	1	1	1	59264705G9	Washer
850N	1	1	1	1	4380264030	Belt
905N	1	1	1	1	4380273500	Flywheel
919N	1	1	1	1	3483164020	Adjuster
946N	1	1	1	1	51300325B0	P.H. Tapped Screw P3 x 25
947N	1	1	1	1	51100308A9	B.H.M. Screw B3 x 8

9.9 [P08-99] SWITCH LOCATION FOR TAPE OPERATION



REF. DESIG.	Q'TY U	C	N	A	PART NO.	DESCRIPTION
068F	1	1	1	1	51380206P0	P.H. Tapped Screw P2 x 6
069F	1	1	1	1	51380206P0	P.H. Tapped Screw P2 x 6
161F	1	1	1	1	51100205A0	B.H.M. Screw B2 x 5
S005	1	1	1	1	SM01010660	Mini Switch, Play
S006	1	1	1	1	SM02010080	Mini Switch, Rec
S010	1	1	1	1	SM01010680	Mini Switch, Motor
S090	1	1		1	SM01010430	Mini Switch
011Q	1	1		1	51380206P0	P.H. Tapped Screw P2 x 6

9.10 [P09-99] PARTS ASSEMBLED ON TOP OF CHASSIS

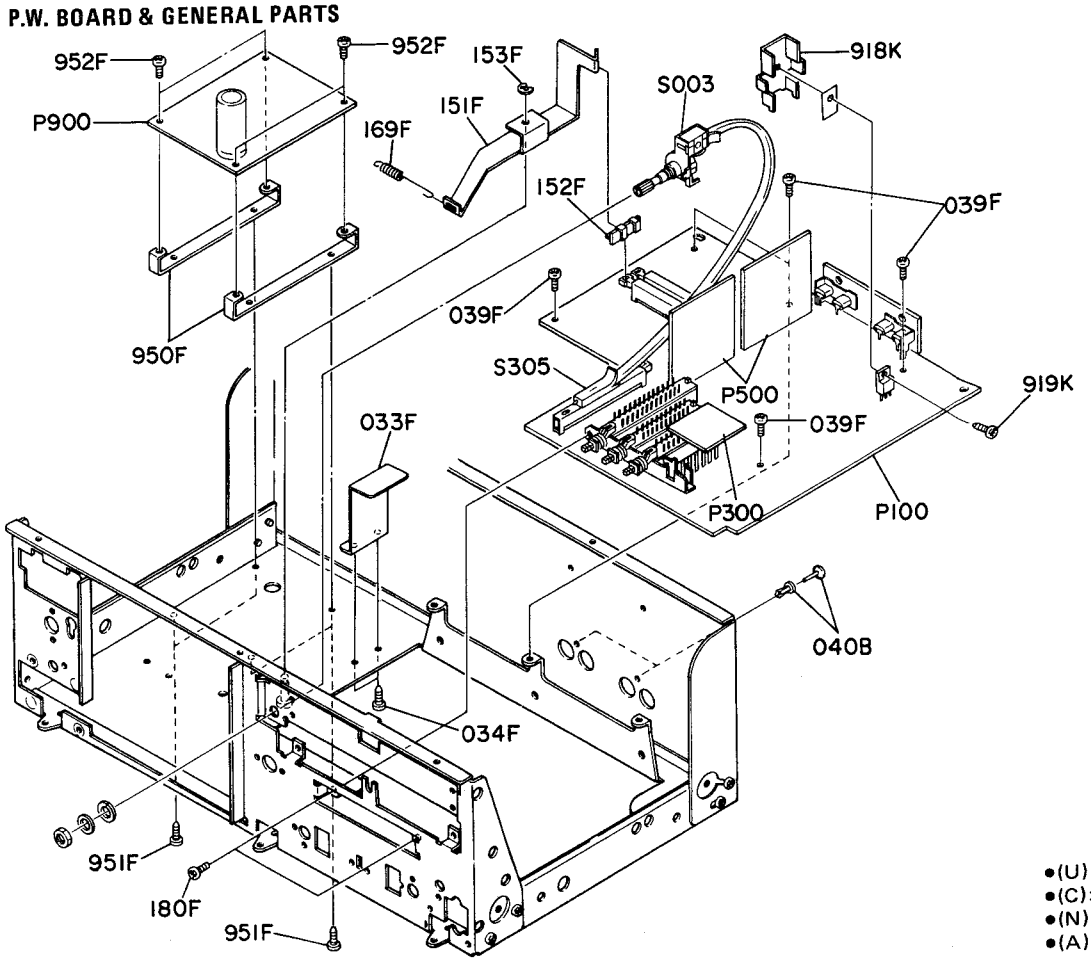


- (U): for U.S.A.
- (C): for Canada
- (N): for Europe
- (A): for Australia

REF. DESIG.	Q'TY U	N	C	A	PART NO.	DESCRIPTION
H	1	1	1	1	4367002400	Arm Assembly, Pinch Roller
K	1	1	1	1	4367004400	Table Assembly, Takeup
L	1	1	1	1	4367004410	Table Assembly, Supply
M	1	1	1	1	4367002420	Arm Assembly, Takeup
O	1	1	1	1	4367354460	Lever Assembly, TMS
002N	1	1	1	1	4380105700	Chassis Assembly
071N	1	1	1	1	4367354090	Lever
072N	1	1	1	1	4367354120	Lever
073N	1	1	1	1	4380115120	Spring
074N	1	1	1	1	51302608B0	P.H. Tapped Screw P2.6 x 8
190N	1	1	1	1	4367118030	Spacer
195N	1	1	1	1	4367002050	Arm
196N	1	1	1	1	4367115130	Spring
201N	1	1	1	1	4367354080	Lever
202N	1	1	1	1	4380115060	Spring
235N	1	1	1	1	4367067010	Cap
236N	2	2	2	2	4367263010	Brake
253N	1	1	1	1	4367115310	Spring
268N	1	1	1	1	4367115210	Spring
285N	1	1	1	1	64002500R0	RG Ring, E Type
286N	1	1	1	1	64001500R0	RG Ring, E Type
075N	1	1	1	1	62261240W0	Lug

REF. DESIG.	Q'TY U	C	N	A	PART NO.	DESCRIPTION
290N	2	2	2	2	59020402G9	Washer
300N	1	1	1	1	4367354110	Lever
310N	1	1	1	1	4383115010	Spring
311N	1	1	1	1	4380115030	Spring
312N	1	1	1	1	4380112010	Shaft
073F	1	1	1	1	4197115060	Spring
074F	1	1	1	1	51302606U0	P.H. Tapped Screw P2.6 x 6
001Q	1	1		1	4398354010	Lever
002Q	1	1		1	4398055010	Collar
003Q	1	1		1	4398115010	Spring
004Q	1	1		1	64002500R0	RG Ring, E Type
005Q	1	1		1	4367056050	Buffer
012Q	1	1		1	4367112190	Shaft

9.12 [M01-99] P.W. BOARD & GENERAL PARTS

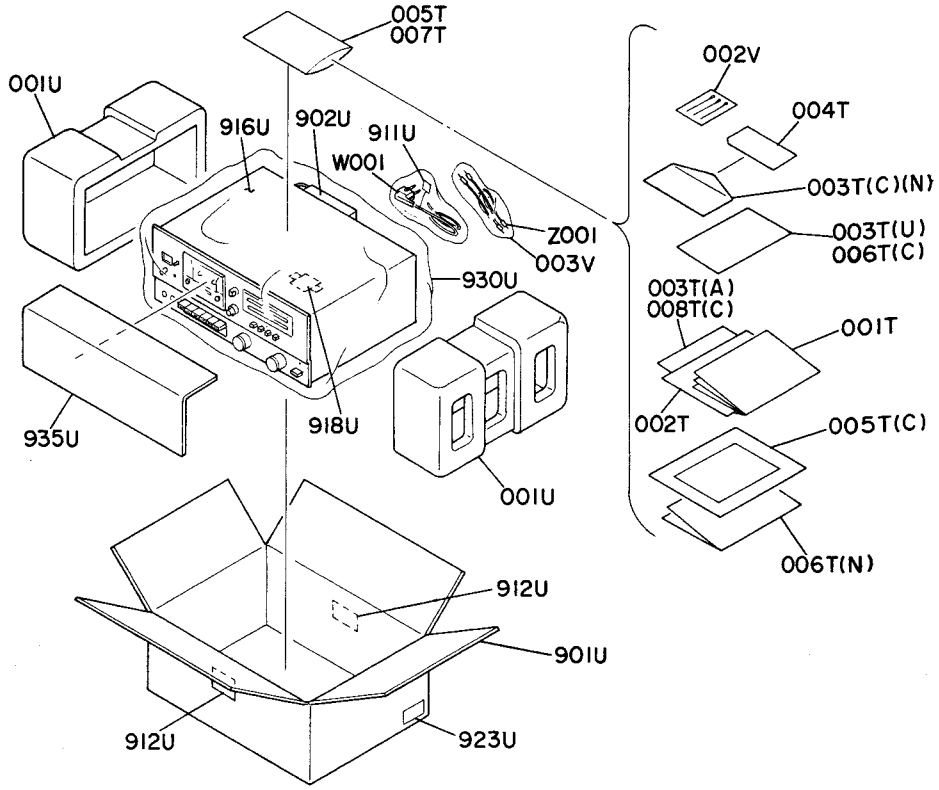


- (U): for U.S.A.
- (C): for Canada
- (N): for Europe
- (A): for Australia

REF. DESIG.	Q'TY U	C	N	A	PART NO.	DESCRIPTION
040B	2	2	2	2	2965005010	Clamper
033F	1	1	1	1	4276109020	Shield
034F	2	2	2	2	51100306A9	B.H.M. Screw B3 x 6
039F	5	5	5	5	51100306A9	B.H.M. Screw B3 x 6
151F	1	1	1	1	4214002010	Arm, Rec
152F	1	1	1	1	4214354010	Lever
153F	1	1	1	1	64000300R0	RG Ring, E Type
169F	1	1	1	1	4214115010	Spring
180F	2	2	2	2	51100306A9	B.H.M. Screw B3 x 6

REF. DESIG.	Q'TY U	C	N	A	PART NO.	DESCRIPTION
950F	2	2	2	2	3889160090	Bracket
951F	4	4	4	4	51100306A9	B.H.M. Screw B3 x 6
952F	4	4	4	4	51100306A9	B.H.M. Screw B3 x 6
918K	1	1	1	1	3444267010	Heatsink
919K	1	1	1	1	5110030659	B.H.M. Screw B3 x 6
S003	1	1		1	SC00020020	Switch, Speed Change
S305	1	1		1	SS08020160	Switch

9.13 [H01-99] PACKING MATERIALS



- (U): for U.S.A.
- (C): for Canada
- (N): for Europe
- (A): for Australia

REF. DESIG.	Q'TY U	C	N	A	PART NO.	DESCRIPTION
001T	1			1	4292851010	Instructions
001T		1	1		4292851310	Instructions
002T	1			1	4292851020	Instructions
002T		1			4292851050	Instructions
002T			1		4292851030	Instructions
003T	1				2818854026	Guarantee Card
003T		1			2918813012	Envelope
003T			1		2818813010	Envelope
003T				1	2205851040	Instructions
004T		1			9630000180	Guarantee Card
005T	1		1		9013025010	Polyethy Bag
005T		1		1	9650000053	S. Station Card
006T		1			2818854043	Guarantee Card
006T			1		4276856010	Circuit Diagram
007T		1			9013025010	Polyethy Bag
008T		1			4292851220	Instructions
						MCD910
901U	1				4292801060	Packing Case

REF. DESIG.	Q'TY U	C	N	A	PART NO.	DESCRIPTION
001U	2	2	2	2	4214809014	Cushion
901U	1			1	4292801010	Packing Case
901U		1			4292801020	Packing Case
901U			1		4292801030	Packing Case
902U	1	1			2864804010	Sleeve
911U			1	1	9560000043	Hang Tag
912U		2			9510901020	Label
916U	1	1	1	1	2918017190	Sheet
918U			1		2731821012	Silicagel
923U	2				9526019010	Serial No. Card
923U		2			9526019020	Serial No. Card
923U			2	2	9526019030	Serial No. Card
930U	1	1		1	9090909040	Polyethy Sheet
930U			1		9014335330	Polyethy Bag
935U	1	1	1	1	4265807010	Reinforcing
002V	1	1	1	1	4136071010	Cleaner
003V	1	1	1	1	9011325010	Polyethy Bag
W001			1		ZC01805010	A.C. Power Cord
W001				1	ZC02006020	A.C. Power Cord
Z001	1	1	1	1	ZD01000170	Connective Cord

- (U): for U.S.A.
- (C): for Canada
- (N): for Europe
- (A): for Australia

9.14 ELECTRICAL PARTS

REF. DESIG.	Q'TY U	C	N	A	PART NO.	DESCRIPTION
						P100-PRE AMP. CIRCUIT BOARD
P100	1	1	1	1	YK42761310	P.W. Board, Pre Amp.
	1	1			ZZ42763310	P.W. Board Assembly
			1		ZZ42767310	P.W. Board Assembly
				1	ZZ42769310	P.W. Board Assembly
						P100-CAPACITORS
C101	1	1	1	1	EA22602590	Elect 22μF 25V
C102	1	1	1	1	DD15331370	Ceramic 330pF ±5%
C103	1	1	1	1	EE10601640	Elect 10μF 16V
C104	1	1	1	1	DD15101370	Ceramic 100pF ±5%
C105	1	1	1	1	DD15470370	Ceramic 47pF ±5%
C106	1	1	1	1	DD15470370	Ceramic 47pF ±5%
C107	1	1	1	1	DF15123300	Film 0.012μF ±5%
C108	1	1	1	1	EA22505090	Elect 2.2μF 50V
C109	1	1	1	1	EA10602590	Elect 10μF 25V
C110	1	1	1	1	EA47601090	Elect 47μF 10V
C111	1	1	1	1	DF15822300	Film 8200pF ±5%
C112	1	1		1	DF15123300	Film 0.012μF ±5%
C113	1	1	1	1	EA22702590	Elect 220μF 25V
C114	1	1	1	1	EA10505090	Elect 1μF 50V
C117	1	1	1	1	EA10602590	Elect 10μF 25V
C118	1	1	1	1	EA47405090	Elect 0.47μF 50V
C119	1	1	1	1	EA10702530	Elect 100μF 25V
C120	1	1	1	1	DK16471300	Ceramic 470pF ±10%
C121	1	1		1	DF15563300	Film 0.056μF ±5%
C122	1	1		1	DF15123300	Film 0.012μF ±5%
C123	1	1	1	1	DF15683300	Film 0.068μF ±5%
C124	1	1	1	1	DF15333300	Film 0.033μF ±5%
C125	1	1	1	1	DF15223300	Film 0.022μF ±5%
C126	1	1	1	1	DF15223300	Film 0.022μF ±5%
C127	1	1	1	1	DF15273300	Film 0.027μF ±5%
C128	1	1		1	DF15822300	Film 8200pF ±5%
C129	1	1		1	DF15103300	Film 0.01μF ±5%
C131	1	1	1	1	EA47505090	Elect 4.7μF 50V
C201	1	1	1	1	EA22602590	Elect 22μF 25V
C202	1	1	1	1	DD15331370	Ceramic 330pF ±5%
C203	1	1	1	1	EE10601640	Elect 10pF 16V
C204	1	1	1	1	DD15101370	Ceramic 100pF ±5%
C205	1	1	1	1	DD15470370	Ceramic 47pF ±5%
C206	1	1	1	1	DD15470370	Ceramic 47pF ±5%
C207	1	1	1	1	DF15123300	Film 0.012μF ±5%
C208	1	1	1	1	EA22505090	Elect 2.2μF 50V
C209	1	1	1	1	EA10602590	Elect 10μF 25V
C210	1	1	1	1	EA47601090	Elect 47μF 10V
C211	1	1	1	1	DF15822300	Film 8200pF ±5%
C212	1	1		1	DF15123300	Film 0.012μF ±5%
C213	1	1	1	1	EA22702530	Elect 220μF 25V
C214	1	1	1	1	EA10505030	Elect 1μF 50V
C217	1	1	1	1	EA10602590	Elect 10μF 25V
C218	1	1	1	1	EA47405090	Elect 0.47μF 50V
C219	1	1	1	1	EA10702530	Elect 100μF 25V
C220	1	1	1	1	DK16471300	Ceramic 470pF ±10%

REF. DESIG.	Q'TY U	C	N	A	PART NO.	DESCRIPTION
C221	1	1		1	DF15563300	Film 0.056μF ±5%
C222	1	1		1	DF15123300	Film 0.012μF ±5%
C223	1	1	1	1	DF15683300	Film 0.068μF ±5%
C224	1	1	1	1	DF15333300	Film 0.033μF ±5%
C225	1	1	1	1	DF15223300	Film 0.022μF ±5%
C226	1	1	1	1	DF15223300	Film 0.022μF ±5%
C227	1	1	1	1	DF15273300	Film 0.027μF ±5%
C228	1	1		1	DF15822300	Film 8200pF ±5%
C229	1	1		1	DF15103300	Film 0.01μF ±5%
C231	1	1	1	1	EA47505090	Elect 4.7μF 50V
C301	1	1	1	1	DF17103300	Elect 0.01μF ±20%
C302	1	1	1	1	DF17103300	Elect 0.01μF ±20%
C303	1	1	1	1	DF17103300	Elect 0.01μF ±20%
C304	1	1	1	1	DF17103300	Elect 0.01μF ±20%
C305	1	1	1	1	EA47705090	Elect 470μF 50V
C306	1	1	1	1	EA47705090	Elect 470μF 50V
C307	1	1	1	1	EA47703590	Elect 470μF 35V
C308	1	1	1	1	EA47702590	Elect 470μF 25V
C309	1	1	1	1	EA22702590	Elect 220μF 25V
C315	1	1	1	1	EA10701090	Elect 100μF 10V
						P100-RESISTORS (All Resistors are ±5% & ¼W)
R101	1	1	1	1	GD05100140	10Ω
R102	1	1	1	1	GD05182140	1.8KΩ
R103	1	1	1	1	GD05103140	10KΩ
R104	1	1	1	1	GD05184140	180KΩ
R105	1	1	1	1	GD05151140	150Ω
R106	1	1	1	1	GD05333140	33KΩ
R107	1	1	1	1	GD05104140	100KΩ
R108	1	1	1	1	GD05562140	5.6KΩ
R109	1	1	1	1	GD05304140	300KΩ
R110	1	1	1	1	GD05183140	18KΩ
R111	1	1	1	1	GD05103140	10KΩ
R112	1	1	1	1	GD05680140	68Ω
R113	1	1	1	1	GD05471140	470Ω
R114	1	1	1	1	RA05020160	5KΩ Trimming
R115	1	1	1	1	RA05030090	50KΩ Trimming
R116	1	1	1	1	GD05562140	5.6KΩ
R117	1	1	1	1	GD05102140	1KΩ
R118	1	1	1	1	GD05822140	8.2KΩ
R119	1	1		1	GD05512140	5.1KΩ
R120	1	1	1	1	GG05561140	560Ω
R121	1	1		1	GD05562140	5.6KΩ
R122	1	1	1	1	GD05562140	5.6KΩ
R124	1	1	1	1	GD05333140	33KΩ
R125	1	1	1	1	GG05681140	680Ω
R126	1	1	1	1	GD05272140	2.7KΩ
R127	1	1	1	1	GD05272140	2.7KΩ
R128	1	1	1	1	GD05272140	2.7KΩ
R129	1	1	1	1	GD05272140	2.7KΩ
R130	1	1	1	1	GD05101140	100Ω

- (U): for U.S.A.
- (C): for Canada
- (N): for Europe
- (A): for Australia

REF. DESIG.	Q'TY U	C	N	A	PART NO.	DESCRIPTION
R131	1	1	1	1	GD05104140	100KΩ
R132	1	1	1	1	GA05471010	470Ω 1W
R133	1	1	1	1	GD05562140	5.6KΩ
R134	1	1		1	GD05822140	8.2KΩ
R135	1	1	1	1	GD05122140	1.2KΩ
R136	1	1		1	GD05122140	1.2KΩ
R137	1	1		1	RA02030060	20KΩ Trimming
R138	1	1	1	1	RA02030060	20KΩ Trimming
R139	1	1		1	GD05272140	2.7KΩ
R140	1	1		1	GD05221140	220Ω
R141	1	1		1	GD05183140	18KΩ
R142	1	1	1	1	GD05152140	1.5KΩ
R143	1	1	1	1	GD05561140	560Ω
R144	1	1	1	1	GD05392140	3.9KΩ
R145	1	1	1	1	GD05101140	100Ω
R146	1	1	1	1	GD05220140	22Ω
R147	1	1		1	GD05560140	56Ω
R148	1	1		1	GD05680140	68Ω
R149	1	1		1	GD05562140	5.6KΩ
R150	1	1	1	1	GD05562140	5.6KΩ
R151	1	1	1	1	GD05683140	68KΩ
R152	1	1	1	1	RA02020180	2KΩ Trimming
R161			1	1	GD05102140	1KΩ
R201	1	1	1	1	GD05100140	10Ω
R202	1	1	1	1	GD05182140	1.8KΩ
R203	1	1	1	1	GD05103140	10KΩ
R204	1	1	1	1	GD05184140	180KΩ
R205	1	1	1	1	GD05151140	150Ω
R206	1	1	1	1	GD05333140	33KΩ
R207	1	1	1	1	GD05104140	100KΩ
R208	1	1	1	1	GD05562140	5.6KΩ
R209	1	1	1	1	GD05304140	300KΩ
R210	1	1	1	1	GD05183140	18KΩ
R211	1	1	1	1	GD05103140	10KΩ
R212	1	1	1	1	GD05680140	68Ω
R213	1	1	1	1	GD05471140	470Ω
R214	1	1	1	1	RA05020160	5KΩ Trimming
R215	1	1	1	1	RA05030090	50KΩ Trimming
R216	1	1	1	1	GD05562140	5.6KΩ
R217	1	1	1	1	GD05102140	1KΩ
R218	1	1	1	1	GD05822140	8.2KΩ
R219	1	1		1	GD05512140	5.1KΩ
R220	1	1	1	1	GG05560140	560Ω
R221	1	1		1	GD05562140	5.6KΩ
R222	1	1		1	GD05562140	5.6KΩ
R223	1	1		1	GD05562140	5.6KΩ
R224	1	1	1	1	GD05333140	33KΩ
R225	1	1	1	1	GG05681140	680Ω
R226	1	1	1	1	GD05272140	2.7KΩ
R227	1	1	1	1	GD05272140	2.7KΩ
R228	1	1	1	1	GD05272140	2.7KΩ
R229	1	1	1	1	GD05272140	2.7KΩ
R230	1	1	1	1	GD05101140	100Ω
R231	1	1	1	1	GD05104140	100KΩ
R232	1	1	1	1	GA05471010	470Ω 1W
R233	1	1	1	1	GD05562140	5.6KΩ
R234	1	1		1	GD05822140	8.2KΩ
R235	1	1	1	1	GD05122140	1.2KΩ

REF. DESIG.	Q'TY U	C	N	A	PART NO.	DESCRIPTION
R236	1	1		1	GD05122140	1.2KΩ
R237	1	1		1	RA02030060	20KΩ Trimming
R238	1	1	1	1	RA02030060	20KΩ Trimming
R239	1	1		1	GD05272140	2.7KΩ
R240	1	1		1	GD05221140	220Ω
R241	1	1		1	GD05183140	18KΩ
R242	1	1	1	1	GD05152140	1.5KΩ
R243	1	1	1	1	GD05561140	560Ω
R244	1	1	1	1	GD05392140	3.9KΩ
R245	1	1	1	1	GD05101140	100Ω
R246	1	1	1	1	GD05220140	22Ω
R247	1	1		1	GD05560140	56Ω
R248	1	1		1	GD05680140	68Ω
R249	1	1		1	GD05562140	5.6KΩ
R250	1	1	1	1	GD05562140	5.6KΩ
R251	1	1	1	1	GD05683140	68KΩ
R252	1	1	1	1	RA02020180	2KΩ Trimming
R261			1	1	GD05102140	1KΩ
R301	1	1	1	1	GA05101020	100Ω 2W
R302	1	1	1	1	GA05122010	1.2KΩ 1W
R303	1	1	1	1	GA05331020	330Ω 2W
R304	1	1	1	1	GA05182010	1.8KΩ 1W
R306	1	1	1	1	GA05100010	10Ω 1W
R307	1	1	1	1	GA05471010	470Ω 1W
R308	1	1	1	1	GA05331010	330Ω 1W
R309	1	1	1	1	GD05124140	120KΩ 1W
R310	1	1	1	1	GA05102010	1KΩ 1W
R311	1	1	1	1	GD05101140	100Ω
R313	1	1	1	1	GA05182010	1.8KΩ 1W
						P100-SEMICONDUCTORS
Q101	1	1	1	1	HT326341T0	Transistor 2SC2634(T)
Q102	1	1	1	1	HT326341T0	Transistor 2SC2634(T)
Q103	1	1	1	1	HT326341S0	Transistor 2SC2634(S)
Q104	1	1		1	HT326341S0	Transistor 2SC2634(S)
Q106	1	1	1	1	HT326341S0	Transistor 2SC2634(S)
Q107	1	1	1	1	HT326341S0	Transistor 2SC2634(S)
Q108	1	1	1	1	HT326341S0	Transistor 2SC2634(S)
Q109	1	1	1	1	HT326341S0	Transistor 2SC2634(S)
Q110	1	1		1	HT326341S0	Transistor 2SC2634(S)
Q111	1	1	1	1	HD10003020	Diode 2OA90
Q112	1	1	1	1	HD10003020	Diode 2OA90
Q201	1	1	1	1	HT326341T0	Transistor 2SC2634(T)
Q202	1	1	1	1	HT326341T0	Transistor 2SC2634(T)
Q203	1	1	1	1	HT326341S0	Transistor 2SC2634(S)
Q204	1	1		1	HT326341S0	Transistor 2SC2634(S)
Q206	1	1	1	1	HT326341S0	Transistor 2SC2634(S)
Q207	1	1	1	1	HT326341S0	Transistor 2SC2634(S)
Q208	1	1	1	1	HT326341S0	Transistor 2SC2634(S)
Q209	1	1	1	1	HT326341S0	Transistor 2SC2634(S)
Q210	1	1		1	HT326341S0	Transistor 2SC2634(S)
Q211	1	1	1	1	HD10003020	Diode 2OA90
Q212	1	1	1	1	HD10003020	Diode 2OA90

●(U): for U.S.A.
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REF. DESIG.	Q'TY U	C	N	A	PART NO.	DESCRIPTION
Q301	1	1	1	1	HD20020080	Diode MI-151R
Q302	1	1	1	1	HD20019080	Diode MI-151
Q303	1	1	1	1	HD30048090	Zener WZ210
Q304	1	1	1	1	HT403131E0	Transistor 2SD313(E)
Q307	1	1	1	1	HT326341T0	Transistor 2SC2634(T)
Q308	1	1	1	1	HD20011050	Diode 1S1555
Q309	1	1	1	1	HD20011050	Diode 1S1555
Q312	1	1	1	1	HD30033090	Zener WZ052
						P100-MISCELLANEOUS
J331	1	1			YT02040230	Terminal
J331			1	1	BY01050110	Jack, RCA Din
L101	1	1		1	LC23950010	Choke Coil 3.9mH
L102	1	1	1	1	LC24750040	Choke Coil 4.7mH
L201	1	1		1	LC23950010	Choke Coil 3.9mH
L202	1	1	1	1	LC24750040	Choke Coil 4.7mH
S003	1	1		1	SC00020012	Switch, Speed Change
S101	1	1	1	1	SS09020120	Slide Switch
S201	1	1	1	1	SS09020120	Slide Switch
S301	1	1	1	1	SP10030010	Push Switch, EQ.
S302	1	1	1	1	SP10030010	Puch Switch, Bias
S303	1	1	1	1	SP10030010	Puch Switch, Dolby NR.
S305	1	1		1	SS08020160	Slide Switch
						P400-FUSE CIRCUIT BOARD
P400			1	1	YK42761320	P.W. Board, Fuse
			1		ZZ42766320	P.W. Board Assembly
				1	ZZ42769320	P.W. Board Assembly
F401			1	1	FS10040800	Fuse 400mAT
F402			1	1	FS10040800	Fuse 400mAT
F403			1	1	FS10140800	Fuse 1.4AT
J401 ~ J406			6	6	YP10001130	Plug
J407 ~ J412			6	6	YJ08000200	Jack, Fuse Clip
						P500-DOLBY CIRCUIT BOARD
P500	2	2	2	2	YK42760810	P.W. Board, Dolby
	2	2		2	ZZ42760810	P.W. Board Assembly
			2		ZZ42768810	P.W. Board Assembly
						P500-CAPACITORS
C501	2	2	2	2	DD15820370	Ceramic 82pF ±5%
C503	2	2		2	DF15122300	Film 1200pF ±5%
C503			2		DF15222300	Film 2200pF ±5%
C504	2	2	2	2	EA10602530	Elect 10μF 25V
C505	2	2	2	2	EA10405030	Elect 0.1μF 50V
C506	2	2	2	2	EA33405030	Elect 0.33μF 50V
C507	2	2	2	2	DF15473300	Film 0.047μF ±5%
C508	2	2	2	2	DF15472300	Film 4700pF ±5%
C509	2	2	2	2	EA10602530	Elect 10μF 25V
C510	2	2	2	2	DF15273300	Film 0.027μF ±5%

REF. DESIG.	Q'TY U	C	N	A	PART NO.	DESCRIPTION
C511	2	2	2	2	DF15562300	Film 5600pF ±5%
C512	2	2	2	2	EA22701030	Elect 220μF 10V
C513	2	2	2	2	EA10602530	Elect 10μF 25V
C514	2	2	2	2	EA10602530	Elect 10μF 25V
C515	2	2	2	2	EA10701630	Elect 100μF 16V
C516	2	2	2	2	DF15222300	Film 2200pF ±5%
						P500-RESISTORS (All Resistors are ±5% & ¼W)
R501	2	2	2	2	GD05274140	270KΩ
R502	2	2	2	2	GD05564140	560KΩ
R503	2	2	2	2	GD05274140	270KΩ
R504	2	2	2	2	GD05473140	47KΩ
R505	2	2	2	2	GD05181140	180Ω
R506	2	2	2	2	GD05332140	3.3KΩ
R507	2	2	2	2	GD05104140	100KΩ
						P500-IC
Q501	2	2	2	2	HC10001360	IC LM1101AN
						P500-COIL
L501	2	2	2	2	LC23660030	Choke Coil 36mH
L502	2	2	2	2	LS70305010	M.P.X. Coil
						P300-MPX CIRCUIT BOARD
P300	1	1	1	1	YK42761330	P.W. Board, MPX
	1	1		1	ZZ42761330	P.W. Board Assembly
			1		ZZ42768330	P.W. Board Assembly
						P300-CAPACITORS
C601	1	1		1	DF15102300	Film 1000pF ±5%
C602	1	1	1	1	DF15392300	Film 3900pF ±5%
C651	1	1		1	DF15102300	Film 1000pF ±5%
C652	1	1	1	1	DF15392300	Film 3900pF ±5%
						P300-RESISTORS
R601	1	1		1	GD05562140	5.6KΩ ±5% ¼W
R651	1	1		1	GD05562140	5.6KΩ ±5% ¼W
						P300-TRANSISTORS
Q601	1	1		1	HT326341S0	Transistor 2SC2634(S)
Q651	1	1		1	HT326341S0	Transistor 2SC2634(S)

●(U): for U.S.A.
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REF. DESIG.	Q'TY U	C	N	A	PART NO.	DESCRIPTION
						P900-OSC CIRCUIT BOARD
P900	1	1	1	1	YF42760010	P.W. Board, OSC
	1	1		1	ZZ42760010	P.W. Board Assembly
			1		ZZ42768010	P.W. Board Assembly
						P900-CAPACITORS
C901	1	1	1	1	EA47505090	Elect 4.7μF 50V
C902	1	1	1	1	EA33405080	Elect 0.33μF 50V
C903	1	1	1	1	EA47505090	Elect 4.7μF 50V
C904	1	1	1	1	EA10602590	Elect 10μF 25V
C905	1	1	1	1	DF65151010	Film 150pF ±5%
C906	1	1	1	1	DF15152300	Film 1500pF ±5%
C907	1	1	1	1	DF65271510	Film 270pF ±5%
C921	1	1	1	1	EA47505090	Elect 4.7μF 50V
C922	1	1	1	1	EA33405080	Elect 0.33μF 50V
C923	1	1	1	1	EA47505090	Elect 4.7μF 50V
C924	1	1	1	1	EA10602590	Elect 10μF 25V
C925	1	1	1	1	DF65151010	Film 150pF ±5%
C926	1	1	1	1	DF15152300	Film 1500pF ±5%
C927	1	1	1	1	DF65271510	Film 270pF ±5%
C941	1	1	1	1	DF16102510	Film 1000pF ±10%
C942	1	1	1	1	DF16102510	Film 1000pF ±10%
C943	1	1	1	1	DF16102350	Film 1000pF ±10%
C944	1	1	1	1	EE10505040	Elect 1μF 50V
C945	1	1	1	1	DF16223510	Film 0.022μF ±10%
C946	1	1	1	1	DK17103300	Ceramic 0.01μF ±20%
C947	1	1	1	1	DK17103300	Ceramic 0.01μF ±20%
C948	1	1	1	1	DK17103300	Ceramic 0.01μF ±20%
C949	1	1	1	1	DK17103300	Ceramic 0.01μF ±20%
C950	1	1	1	1	DK18403320	Ceramic 0.04μF
C951	1	1	1	1	EA22802590	Elect 2200μF 25V
						P900-RESISTORS (All Resistors are ±5% & ¼W)
R901	1	1	1	1	GD05332140	3.3KΩ
R902	1	1	1	1	GD05103140	10KΩ
R903	1	1	1	1	GD05682140	6.8KΩ
R904	1	1	1	1	GD05564140	560KΩ
R905	1	1	1	1	GD05473140	47KΩ
R906	1	1	1	1	GD05153140	15KΩ
R907	1	1	1	1	GD05102140	1KΩ
R908	1	1	1	1	GD05103140	10KΩ
R909	1	1	1	1	RA01540010	150KΩ Trimming
R910	1	1	1	1	GD05103140	10KΩ
R921	1	1	1	1	GD05332140	3.3KΩ
R922	1	1	1	1	GD05103140	10KΩ
R923	1	1	1	1	GD05682140	6.8KΩ
R924	1	1	1	1	GD05564140	560KΩ
R925	1	1	1	1	GD05473140	47KΩ
R926	1	1	1	1	GD05153140	15KΩ
R927	1	1	1	1	GD05102140	1KΩ
R928	1	1	1	1	GD05103140	10KΩ
R929	1	1	1	1	RA01540010	150KΩ Trimming
R930	1	1	1	1	GD05103140	10KΩ
R941	1	1	1	1	GD05154140	150KΩ
R942	1	1	1	1	GD05154140	150KΩ
R943	1	1	1	1	GD05390140	39Ω
R944	1	1	1	1	GD05390140	39Ω
R945	1	1		1	RA05020160	5KΩ Trimming
R946	1	1		1	GD05332140	3.3KΩ
R947	1	1		1	GD05562140	5.6KΩ

●(U): for U.S.A.
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REF. DESIG.	Q'TY U	C	N	A	PART NO.	DESCRIPTION
						P900-SEMICONDUCTORS
Q901	1	1	1	1	HT326341S0	Transistor 2SC2634(S)
Q902	1	1	1	1	HT326341S0	Transistor 2SC2634(S)
Q921	1	1	1	1	HT326341S0	Transistor 2SC2634(S)
Q922	1	1	1	1	HT326341S0	Transistor 2SC2634(S)
Q941	1	1	1	1	HT313181R0	Transistor 2SC1318(R)
Q942	1	1	1	1	HT313181R0	Transistor 2SC1318(R)
Q943	1	1	1	1	HD20020080	Diode MI-151R
Q944	1	1	1	1	HD20019080	Diode MI-151
						P900-COIL
L901	1	1	1	1	LC22260510	Choke Coil 22mH
L921	1	1	1	1	LC22260510	Choke Coil 22mH
L941	1	1	1	1	TC10180072	OSC Transformer

(W01-99)	Assembly and Wiring
(T01-99)	Adjustment
(X01-00)	Correction

10. TECHNICAL SPECIFICATIONS

[FOR U.S.A. & CANADA]

Type	Front loading 4-Track, 2-Channel Stereo Record/Playback System	
Tape	Philips-type Compact Cassette	
Tape Speeds	High: 3-3/4 ips (9.52 cm/sec)	Standard: 1-7/8 ips (4.76 cm/sec)
Motor Drive System	DC Servo Motor (x1) with Single Capstan Drive	
Heads	2 Head System	
	Erase Head: Ferrite	
	Record/Play Head: Super Hard Permalloy	
Level Indicators	Left and Right Illuminated VU Meters	
Noise Reduction System	Dolby NR	
Semiconductors		
Transistors	28	
IC's	2	
Diodes	12	
LED's	1	
Wow and Flutter (WRMS)	High Speed	Standard Speed
	0.06%	0.08%
Frequency Response		
(Overall, –20 dB below 0 VU)		
Ferrichrome (FeCr)	36 Hz ~ 19 kHz (±3 dB)	35 Hz ~ 16 kHz (±3 dB)
Chromium Doxide (CrO_2)	35 Hz ~ 18 kHz (±3 dB)	35 Hz ~ 15 kHz (±3 dB)
Ferric (Normal)	35 Hz ~ 17 kHz (±3 dB)	35 Hz ~ 14 kHz (±3 dB)
Signal-to-Noise Ratio		
Dolby ON	66 dB (over 5 kHz)	63 dB (over 5 kHz)
Dolby OFF	57 dB	54 dB
Outputs		
Line: Level	650 mV	
Impedance	2.5 kΩ	
Headphone: Level	43 mV	
Impedance	100 Ω	
Inputs (Level at 0 VU)		
Line: Sensitivity	–32 dBV (25 mV)	
Impedance	100 kΩ	
Mic: Sensitivity	–72 dBV (0.25 mV)	
Impedance	Low Z	
Fast Rewind Time	Approx. 100 sec. (C-60 cass.)	
Fast Forward Time	Approx. 100 sec. (C-60 cass.)	
Bias Frequency	88 kHz	
Power Requirements	120 V AC, 60 Hz	
Power Consumption	16 Watts	
Dimensions (W x H x D)	16-15/16 in. x 5-3/4 in. x 9-9/16 in.	
	(43.0 cm) x (14.6 cm) x (24.3 cm)	
Net Weight	13 lbs. 4 ozs. (6 kg)	

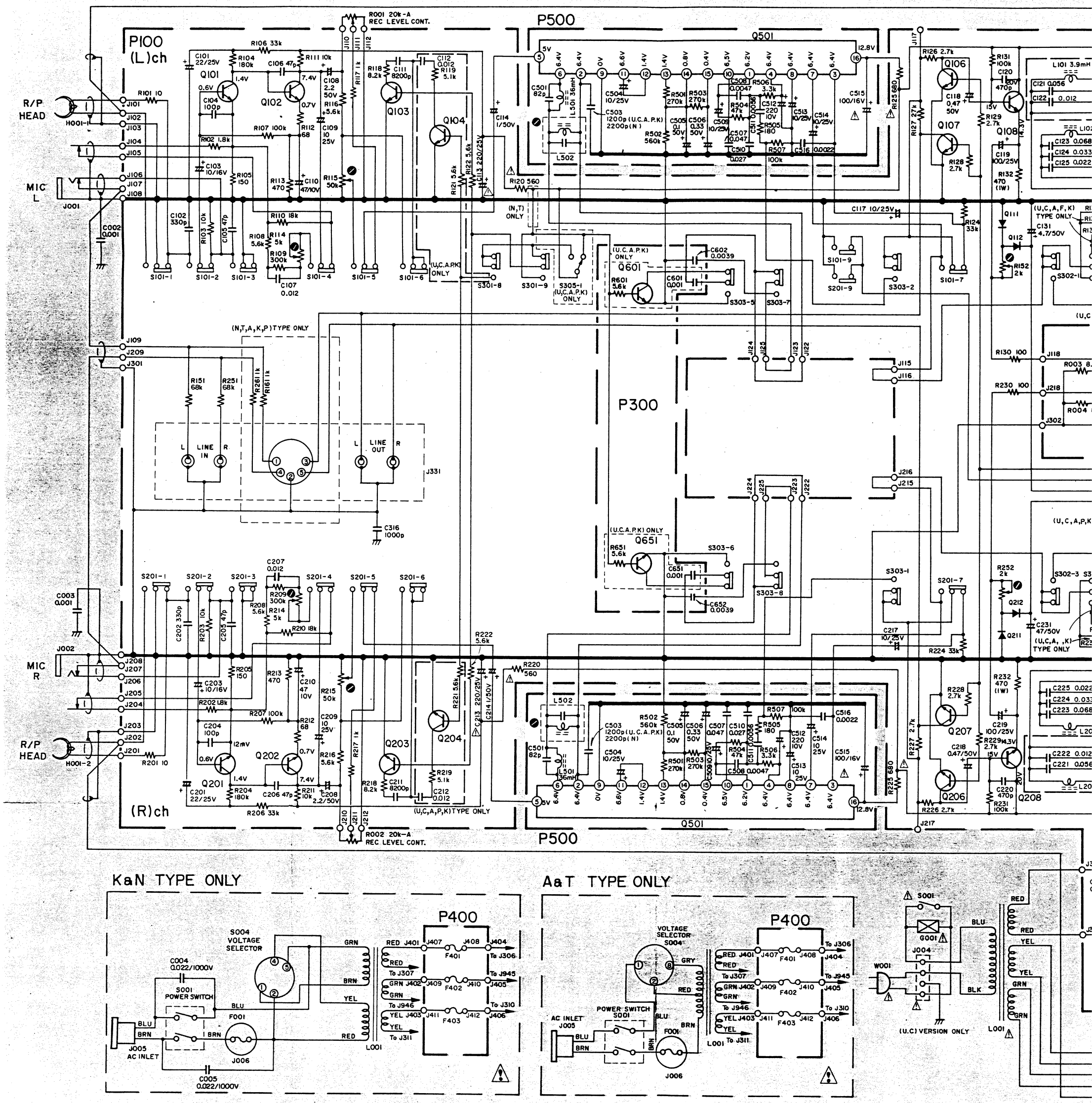
NOTES:
1. Reference recording level: 0 VU (160 nW/M)
2. Reference frequency: 315 Hz
3. Wow and flutter measured at: 3.0 kHz NAB WGTD RMS
4. Frequency response measured at: 20 dB below 0 VU recording level reference (Dolby off)
5. S/N ratio measured at the recorded level equivalent to 3% THD, IEC "A" WGTD, 70 μSec. EQ.
6. Recording reference tapes:
   Standard: TDK AC 211
   CrO_2: TDK AC 511
   FeCr: Sony CS 30

[FOR EUROPE]

Style	Front load
Tape Drive System	Single Capstan Drive
Cartridge	Philips type compact cassette
Track System	Compatible Stereo 4-track 2 channel
Tape Speed	1-7/8 ips (4.75 cm/sec.)
Heads	2 Head System
Composition	Rec/Play: Super hard Permalloy
	Erase: Ferrite
Motor	DC Servo Controlled Motor x 1
Meters	VU type x 2
Recording System	AC Bias
Erasing System	AC Erase
Semiconductor Complement	
Transistors	22
Diodes	12
IC's	2
LED's	1
Overall Frequency Response (Dolby off):	
Ferric Oxide Tape	40 Hz to 12.5 kHz ±3 dB
CrO_2 Tape	40 Hz to 14 kHz ±3 dB
FeCr Tape	40 Hz to 15 kHz ±3 dB
Total Harmonic Distortion	
Ferric Oxide Tape	2.5%
CrO_2 Tape	2.8%
FeCr Tape	2.8%
Wow and Flutter (DIN WTD)	0.17%
Fast Rewing time	110 sec.
Fast Foward time	110 sec.
AC Line Voltage	220 V AC, 50 Hz
(E/N versions are featuring an external voltage selector for use on 110/220 V. T versions 220/240 V AC, 50/60 Hz.)	
Power Consumption	16 Watts
Dimensions (W x H x D)	416 mm x 146 mm x 243 mm
Weight	6 kg

SCHEMATIC DIAGRAM

Q001	Q101, Q102, Q201, Q202, Q307,	Q103∿Q110, Q203∿Q210,	Q111, Q112, Q211, Q212	Q301, Q943	Q302, Q944	Q303	Q304	Q308, Q3
H110004030	HT32634ITO	Q601, Q651, Q901, Q902, Q921, Q922	HD10003020	HD20020080	HD20019080	HD30048090	HT40313IEO	HD20011C
SLP-132B	2SC2634(T)	HT32634ISO	20A90	MI-151R	MI-151	WZ210	2SD313(E)	IS1555
		2SC2634(S)						


P100 (L)ch
P500
P300
P400
Q501
R001 20k-A REC LEVEL CONT.
R002 20k-A REC LEVEL CONT.
R/P HEAD
MIC L
MIC R
H001-1
H001-2
J001
J002
(N,T,A,K,P) TYPE ONLY
(U,C,A,P,K) TYPE ONLY
(U,C,A,F,K) TYPE ONLY
(U.C.A.P.K) ONLY
(N,T) ONLY
(R)ch
LINE IN
LINE OUT
J331
S101-1
S101-2
S101-3
S101-4
S101-5
S101-6
S101-7
S201-1
S201-2
S201-3
S201-4
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S201-6
S201-7
S301-8
S301-9
S305-1
S303-1
S303-2
S303-5
S303-6
S303-7
S303-8
S201-9
Q101
Q102
Q103
Q104
Q201
Q202
Q203
Q204
Q601
Q651
Q106
Q107
Q108
Q111
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Q206
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Q212
Q211
L501 36mH
L502
L101 3.9mH
L120
L123 0.068
L124 0.033
L125 0.022
L222 0.012
L221 0.056
L224 0.033
L225 0.022
L223 0.068
C316 1000p
C652 0.0039
C651 0.001
C602 0.0039
C601 0.001
C231 47/50V
C217 10/25V
C114 1/50V
C117 10/25V
C131 4.7/50V
C002 0.001
C003 0.001
C102 330p
C202 330p
C103 10/16V
C203 10/16V
C104 100p
C204 100p
C105 47p
C205 47p
C106 47p
C206 47p
C107 0.012
C207 0.012
C108 2.2 50V
C208 2.2/50V
C109 10 25V
C209 10 25V
C110 47/10V
C210 47 10V
C111 8200p
C211 8200p
C112 0.012
C212 0.012
C113 220/25V
C213 220/25V
C214 1/50V
C501 82p
C503 1200p(U.C.A.P.K) 2200p(N)
C504 10/25V
C505 0.1 50V
C506 0.33 50V
C507 0.047
C508 0.0047
C509 10/25V
C510 0.027
C511 0.0056
C512 220 10V
C513 10/25V
C514 10/25V
C515 100/16V
C516 0.0022
C118 0.47 50V
C119 100/25V
C120 470p 50V
C121 0.056
C122 0.012
C123 0.068
C124 0.033
C125 0.022
C219 100/25V
C218 0.47/50V
C220 470p
C221 0.056
C222 0.012
C223 0.068
C224 0.033
C225 0.022
R101 10
R201 10
R102 1.8k
R202 1.8k
R103 10k
R203 10k
R104 180k
R204 180k
R105 150
R205 150
R106 33k
R206 33k
R107 100k
R207 100k
R108 5.6k
R208 5.6k
R109 300k
R209 300k
R110 18k
R210 18k
R111 10k
R211 10k
R112 68
R212 68
R113 470
R213 470
R114 5k
R214 5k
R115 50k
R215 50k
R116 5.6k
R216 5.6k
R117 1k
R217 1k
R118 8.2k
R218 8.2k
R119 5.1k
R219 5.1k
R120 560
R220 560
R121 5.6k
R221 5.6k
R122 5.6k
R222 5.6k
R501 270k
R502 560k
R503 270k
R504 47k
R505 180
R506 3.3k
R507 100k
R601 5.6k
R651 5.6k
R125 680
R225 680
R126 2.7k
R226 2.7k
R127 27k
R227 2.7k
R128 2.7k
R228 2.7k
R129 2.7k
R229 2.7k
R130 100
R230 100
R131 100k
R231 100k
R132 470 (1W)
R232 470 (1W)
R124 33k
R224 33k
R151 68k
R251 68k
R261 1k
R161 1k
R252 2k
R152 2k
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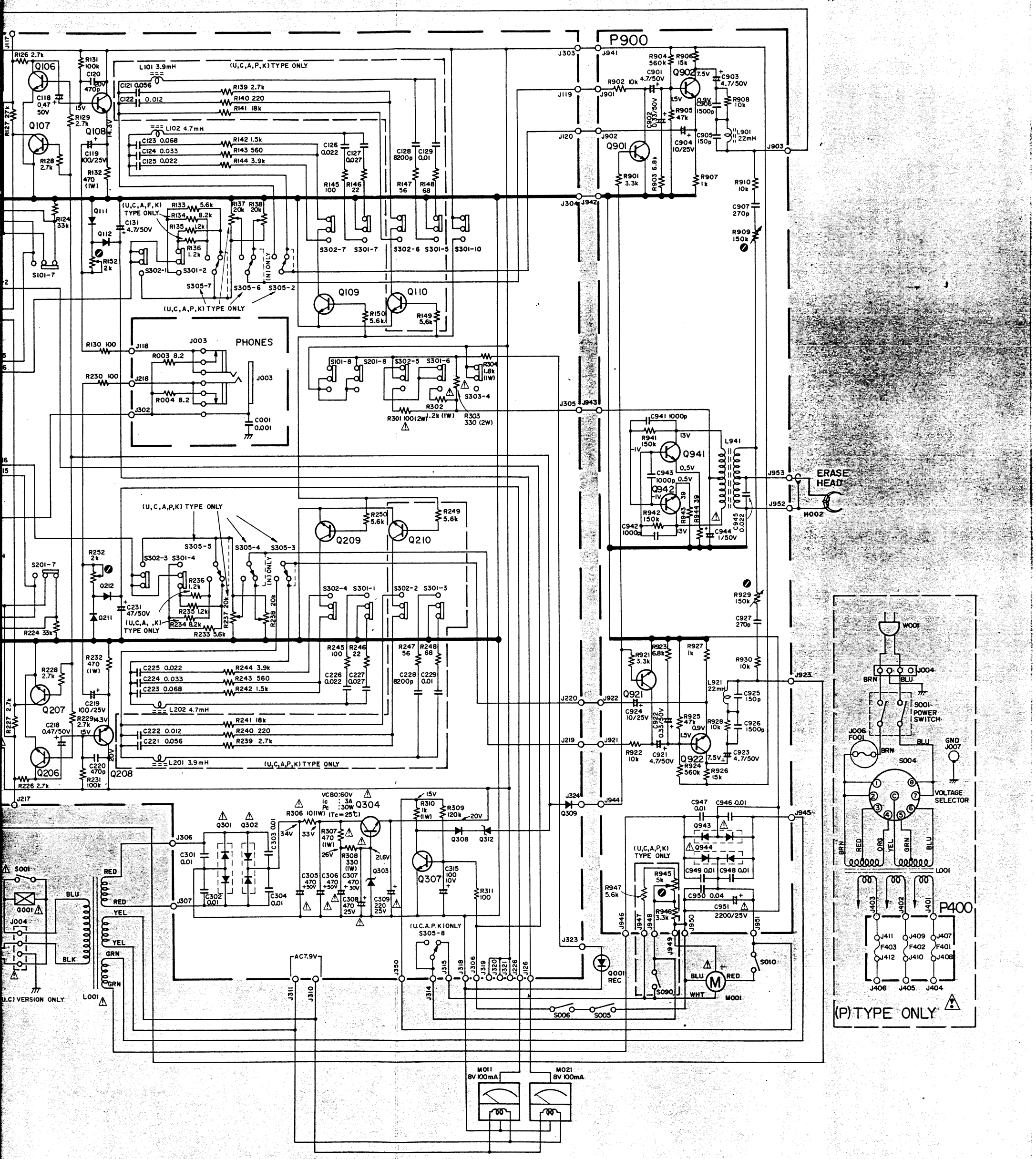
J984

03	Q304	Q308,Q309	Q312	Q501,	Q941,Q942
0048090	HT403131E0	HD20011050	HD30033090	HC10001360	HT313181R0
210	2SD313(E)	1SI555	WZ052	LM1101AN	2SC1318 (R)


P900
(U,C,A,P,K) TYPE ONLY
PHONES
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(U,C,A,P,K) TYPE ONLY
(U,C,A,F,K) TYPE ONLY
(U,C,A,P,K) TYPE ONLY
(U,C,A,P,K) TYPE ONLY
(U,C,A,P